



US Army Corps  
of Engineers  
Alaska District

# Public Notice of Application for Permit

Regulatory Branch (1145b)  
Post Office Box 6898  
Elmendorf AFB, Alaska 99506-0898

**PUBLIC NOTICE DATE:** 25 August 2005

**EXPIRATION DATE:** 26 September 2005

**REFERENCE NUMBER:** POA-2005-1295

**WATERWAY NUMBER:** Harrison Bay, Beaufort Sea

Interested parties are hereby notified that an application has been received for a Department of the Army permit for work in wetlands and navigable waters of the United States as described below and shown on the attached figures.

**APPLICANT:** Pioneer Natural Resources Alaska, Inc., 700 G Street, Suite 600, Anchorage, AK 99501. The proposed projects point of contact is Mr. J. Patrick Foley (907)-343-2110.

**LOCATION:** The offshore island would be located at section 11, Township 13 North, Range 7 East, Umiat Meridian, latitude 70° 29.75' North, longitude 150° 14.8' West; the onshore production tie-in pad expansion would be located at section 12, Township 12 North, Range 8 East, Umiat Meridian, latitude 70° 24' 50.4" North, longitude 150° 00' 40.8" West; the 5.7 mile buried off-shore flowlines and 2.4 mile on-shore vertical support module (VSM) mounted flowlines would run in a straight line between the off-shore island and on-shore pad. The off-shore/on-shore flowline transition point would be at section 33, Township 13 North, Range 8 East, Umiat Meridian, latitude 70° 26' 7.5" North, longitude 150° 4' 58.9" West; the proposed island is located in the Colville River Delta. Mine Site E, the proposed material source for gravel, is located approximately 8 miles east northeast of the proposed on-shore production tie-in pad at section 24, Township 13 North, Range 9 East, latitude 70.4645° North, longitude 150.7039° West.

**WORK:** The applicant proposes to place an approximate total of 1,160,600 cubic yards (cy) of fill and backfill. Fill material would primarily consist of gravel fill excavated from Mine Site E. Backfill material would primarily consist of in-situ material excavated from the Beaufort Sea floor or tundra. Fill and backfill would permanently impact 91.2 acres of waters of the U.S. (Beaufort Sea and tundra wetlands).

Proposed work includes construction of a 10.85 acre off-shore island comprised of gravel excavated from Mine Site E, placement of erosion protection (sea-bags) around the island, addition of a sheet-piled dock to the island excavation of two test trenches for the flowline bundle, placement of ~11,400 cy of seafloor substrate excavated for the temporary trenches at the base of the coastal bluffs as short term erosion protection (e.g. adjacent to the off-shore to on-shore transition trench), excavation of an off-shore trench to bury the flowline bundle, temporary stockpiling of the material excavated from the trench on adjacent ice, backfilling of the trench, blasting and excavation of an off-shore to on-shore

transition trench for the flowline bundle, placement of the ~10,700 cy of brackish blasted/excavated material at the base of the coastal bluffs as short-term temporary erosion protection, burial of the flowline bundle in the transition trench, placement of erosion protection on that portion of the Beaufort Sea coastline comprising the off-shore to on-shore transition trench right-of-way, vertical boring of flowline VSM post holes, placement of VSM's, backfilling of VSM holes, placement of gravel fill material excavated from Mine Site E to expand the existing Drill Site 3H pad, placement of thaw stable fill (gravel) over the off-shore flowline to repair areas where backfilled material subsides\*, erodes or "strudel" scours\*, and placement of gravel fill material on the island to maintain it's design elevation as erosion or planned settling occurs\*.

The attached "Pioneer Oooguruk Development Gravel Use Table" dated August 23, 2005, depicts the quantities of fill material to be placed in cubic yards, the acres impacted by the placement of proposed fill and the volume of in-situ materials excavated to complete proposed work. Excavated materials that are then placed as "backfill" are included in the "Fill Volume (cy)" column.

- Note: Asterisked items above are considered maintenance. If a permit is issued these maintenance activities would be permitted for the life of the permit (see next bullet) without the applicant needing to apply for an additional Section 10 or Section 404 permit as long as the material obtained for maintenance and/or the placement of that material, is within the footprints of an appropriately permitted work area (e.g. permitted via a Department of the Army Section 10 and/or 404 permit). Any jurisdictional waters of the U.S. temporarily or permanently impacted (e.g. an impact jurisdictional within Section 10 of the Rivers and Harbors Act of 1899, as amended and Section 404 of the Clean Water Act, as amended) by transport or stockpiling of material used for maintenance must also have been permitted to avoid the need for additional permits. If issued the permit will be conditioned to prevent fill placed as maintenance from creating a navigation hazard.
- Pursuant to 33 CFR Part 325.6 (b) as prescribed in Federal Register Volume 51, Number 219, dated November 13, 1986, page 41243, the proposed island constitutes a temporary structure placed in a navigable waterway. Restoration of the waterway is expected. Therefore, if a permit is issued the authorized work including maintenance will have a finite lifespan.

The applicant proposes to construct temporary ice-roads and ice-pads for access to worksites. As proposed these temporary ice roads do not fall within Department of the Army jurisdictions defined above.

The applicant proposes the construction and installation of a temporary winter work camp for 200 to 225 workers at Oliktok Point. Based on information available to date no portion of that activity is known to be jurisdictional under Section 10 and 404 listed above.

The proposed mining and mine site rehabilitation plans include work required within this application for Pioneer Natural Resources Alaska, Inc.'s project and a separate application for an unrelated off-shore island project of Kerr-McGee Oil & Gas Corporation. Both are included in this application because both companies plan to impact overlapping areas of an existing mine (Mine Site E), and are proposing similar reclamation plans (e.g. similar in scope and temporal impact). The Corps will require written confirmation from the existing operator, Conoco-Phillips Alaska, Inc. that the applicants' proposed work at Mine Site E is compatible with their current use and future reclamation plans.

Please note that while the attached "Pioneer Oooguruk Development Gravel Use Table" contains volumes of fill, excavation and acres impacted for the proposed Pioneer project alone. Sheets 24 through 34 below and both projects combined "Mine

Site E, Mining and Reclamation Plans"; depict impacts to Mine Site E of both Pioneer and Kerr-McGee's projects.

The U.S. Army Corps of Engineers (Corps) has determined that the Pioneer Natural Resources Alaska, Inc. and Kerr-McGee Oil & Gas Corporations projects have "independent utility" as defined in Federal Register Volume 65, Number 47, dated March 9, 2000, page 12898, and are therefore separate projects. The Corps is including information on both projects proposed impacts to Mine Site E to clarify proposed impacts from two separate projects that could occur in the same area at the same time.

The public notice for the proposed Kerr-McGee project was published August 15, 2005 and is number POA-2005-1243.

Therefore, the volumes of overburden material moved at Mine Site E, and the footprint of the affected area as shown in Sheets 24 through 34, and the mine site reclamation plans for both projects, represent both projects excavation and backfill quantities.

Pioneer proposes to remove almost 400,000 to 500,000 cy of gravel during the first year of work (island construction) from Cell 4, and Kerr-McGee would remove 500,000 cy of gravel for their project from Cell 4. Kerr-McGee's later construction of the central and eastern production islands would require material from Cell 4A.

Overburden from Cell 4 would be placed into existing Cell 3 to create islands and shallow water habitat. When Cell 4A is opened (2006), the overburden pile (previously placed during the opening of Cell 3) would be moved into depleted Cell 4, along with the natural overburden overlying Cell 4A gravel. At the end of mining, Cell 4A would remain as deep open water, while Cell 4 would be filled to approximately ground level. Existing Cell 3 would be deep and shallow open water habitat and islands. The overall goal of the reclamation plans is to create loafing, feeding and nesting habitat for indigenous avifauna.

**PURPOSE:** The purpose of Pioneer's proposed work is to obtain oil from offshore formations, transport and sell produced crude oil.

**ADDITIONAL INFORMATION:** A non-inclusive list of the applicant's planned construction sequencing is listed below. Quarters listed represent the overall timeframe within which the applicant expects to complete the work item(s) shown.

4<sup>th</sup> Quarter 2005 - 2nd Quarter 2006 - Remove mine site overburden, drill, blast and stockpile gravel. Construct ice road access.

1<sup>st</sup> Quarter 2006 - 3<sup>rd</sup> Quarter 2006 - Construct island, install sheet-piled dock and installation of erosion protection.

4<sup>th</sup> Quarter 2006 - 2<sup>nd</sup> Quarter 2007 - Off-shore trench excavation, flowline construction and installation and off-shore trench backfill.

4<sup>th</sup> Quarter 2006 - 3<sup>rd</sup> Quarter 2007 - Construction and installation of drill site facilities.

2<sup>nd</sup> Quarter 2007 through 2<sup>nd</sup> Quarter 2010 - Installation of the drilling rig and well drilling (40 to 60 wells on 7-foot centers, approximately ⅓ production and ⅔ injector wells).

Site decommissioning and closure is expected at the end of the target field's life.

The target reservoirs and estimated maximum production from the island is:

<u>Flow</u>	<u>Formation</u>	<u>Estimated Peak Production</u>
Stimulation or artificial lift	Nuiqsut	18,000 bbl/day to 20,000 bbl/day for both formations
Free flowing	Kuparuk	combined

The produced fluids would be transported to the on-shore pad for processing through an approximate 12-inch three-phase (oil, gas and water) pipe-in-pipe pipeline. Also buried within the same trench would be an approximate 8-inch single pipe water injection line, 6-inch single pipe gas line, 2-inch single pipe arctic heating fuel line and a power and communication cable. The latter (the power and communication cable) is the only line not proposed to be bundled with all other lines.

The island would be manned during drilling, with housing provided onsite. During production (post drilling) the island would be remotely operated with personnel quartered on-site as needed for operations and/or maintenance. Transportation would be by ice road, boat, barge, hovercraft, and/or helicopter. Drilling would require up to four years to complete. The island would have one Class I/II underground injection (UIC) well, and grind and inject equipment for disposal of drilling wastes. A barge may be moored at the island dock to store drilling supplies and equipment.

Power for the island would be produced on the production tie-in pad.

**MITIGATION:** As a result of early project planning, the applicant has incorporated into the proposed project the following mitigation efforts to reduce impacts to the aquatic environment: minimized footprints, winter construction, rehabilitation at the end of the projects life, development of wildlife avoidance and impact minimization plans, erosion protection of constructed facilities, pipe-in-pipe design for spill prevention, the use of existing infrastructure for the processing of developed product, injection of waste cuttings and fluids, construction of flowline test trenches along the same alignment as the final flowline trench, placement of brackish material excavated at the coastline bluff on the bluff beach transition to allow the material to eroded into it's normal environment versus disposing of it in a freshwater tundra environment, construction of an island drillsite versus using an existing natural island, discharge's would be in compliance with NPDES permit requirements, slotting ice roads in the spring to facilitate ice breakup, utilization of the existing overburden pile at Cell 4A of the mine site for rehabilitation thereby reducing the area of affected wetlands, and remote operation of the production facilities on the offshore islands.

**WATER QUALITY CERTIFICATION:** A permit for the described work will not be issued until a certification or waiver of certification as required under Section 401 of the Clean Water Act (Public Law 95-217), has been received from the Alaska Department of Environmental Conservation.

**COASTAL ZONE MANAGEMENT ACT CERTIFICATION:** Section 307(c)(3) of the Coastal Zone, Management Act of 1972, as amended by 16 U.S.C. 1456(c)(3), requires the applicant to certify that the described activity affecting land or water uses in the Coastal Zone complies with the Alaska Coastal Management Program. A permit will not be issued until the Office of Project Management and Permitting, Department of Natural Resources has concurred with the applicant's certification.

**PUBLIC HEARING:** Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, reasons for holding a public hearing.

**CULTURAL RESOURCES:** The latest published version of the Alaska Heritage Resources Survey (AHRs) has been consulted for the presence or absence of historic properties, including those listed in or eligible for inclusion in the National Register of Historic Places. There are no known archaeological sites or historic properties within the proposed permit area (includes temporary and permanent impacts). Consultation of the AHRs constitutes the extent of cultural resource investigations by the District Engineer at this time. This application is being coordinated with SHPO. Any comments SHPO may have concerning presently unknown archeological or historic data that may be lost or destroyed by work under the requested permit will be considered in our final assessment of the described work.

**TRIBAL CONSULTATION:** The Alaska District fully supports tribal self-governance and government-to-government relations between the Federal government and Federally recognized Tribes. This notice invites participation by agencies, Tribes, and members of the public in the Federal decision-making process. In addition, Tribes with protected rights or resources that could be significantly affected by a proposed Federal action (e.g., a permit decision) have the right to consult with the Alaska District on a government-to-government basis. Views of each Tribe regarding protected rights and resources will be accorded due consideration in this process. This Public Notice serves as notification to the Tribes within the area potentially affected by the proposed work and invites their participation in the Federal decision-making process regarding the protected Tribal right or resource. Consultation may be initiated by the affected Tribe upon written request to the District Engineer during the public comment period.

**ENDANGERED SPECIES:** The project area is within the known or historic range of the spectacled eider (*Somateria fischeri*), Steller's eiders (*Polysticta stelleri*), bowhead whale (*Balaena mysticetus*) and Eskimo curlew (*Numenius borealis*).

Note: because the Eskimo curlew (*Numenius borealis*) is considered extirpated it is not addressed further in the applicant's documents.

The Corps preliminary effects determinations are: the described activity is not likely to adversely affect threatened or endangered species listed above (except the Eskimo curlew [*Numenius borealis*]), or their designated critical habitat, under the Endangered Species Act of 1973 (87 Stat. 844). And, the described activity is expected to have no effect on the Eskimo curlew (*Numenius borealis*).

The applicants permit application is being coordinated with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. Any comments they may have concerning endangered or threatened wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

**ESSENTIAL FISH HABITAT:** The proposed work is being evaluated for possible effects to Essential Fish Habitat (EFH) pursuant to the Magnuson Stevens Fishery Conservation and Management Act of 1996 (MSFCMA), 16 U.S.C. et seq and associated federal regulations found at 50 CFR 600 Subpart K. The Alaska District includes areas of EFH as Fishery Management Plans. We have reviewed the January 20, 1999, North Pacific Fishery Management Council's Environmental Assessment to locate EFH area as identified by the National Marine Fisheries Service (NMFS).

We have determined that the described activity within the proposed area will not adversely affect EFH, including anadromous fish and federally managed fishery resources.

**SPECIAL AREA DESIGNATION:** The island and off-shore flowline are immediately west (e.g. outside) the Oooguruk Unit, the on-shore pad and on-shore portion of the flowline are within the Kuparuk River Unit, on land managed by the State of Alaska Department of Natural Resources.

**EVALUATION:** The decision whether to issue a permit will be based on an evaluation

of the probable impacts including cumulative impacts of the proposed activity and its intended use on the public interest. Evaluation of the probable impacts, which the proposed activity may have on the public interest, requires a careful weighing of all the factors that become relevant in each particular case. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur, are therefore determined by the outcome of the general balancing process. That decision should reflect the national concern for both protection and utilization of important resources. All factors, which may be relevant to the proposal, must be considered including the cumulative effects thereof. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency's 404(b)(1) guidelines. Subject to the preceding sentence and any other applicable guidelines or criteria (see Sections 320.2 and 320.3), a permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Comments on the described work, with the reference number, should reach this office no later than the expiration date of this Public Notice to become part of the record and be considered in the decision. Please contact Mr. Keith Gordon at (907) 753-2716; toll free from within Alaska at (800) 478-2712, or by email at [keith.g.gordon@poa02.usace.army.mil](mailto:keith.g.gordon@poa02.usace.army.mil) if further information is desired concerning this notice.

**AUTHORITY:** This permit will be issued or denied under the following authorities:

(X) Perform work in or affecting navigable waters of the United States - Section 10 Rivers and Harbors Act 1899 (33 U.S.C. 403).

(X) Discharge dredged or fill material into waters of the United States - Section 404 Clean Water Act (33 U.S.C. 1344). Therefore, our public interest review will consider the guidelines set forth under Section 404(b) of the Clean Water Act (40 CFR 230).

( ) Transport dredged material for the purpose of dumping it into ocean waters - Section 103 Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413). Therefore, our public interest review will consider the criteria established under authority of Section 102(a) of the Marine Protection, Research and Sanctuaries Act of 1972, as amended (40 CFR Parts 220 to 229), as appropriate.

The applicant's plans, a Notice of Application for Certification of Consistency with the Alaska Coastal Management Program, and a Notice of Application for State Water Quality Certification are attached to this Public Notice.

District Engineer  
U.S. Army, Corps of Engineers

Attachments

# STATE OF ALASKA

OFFICE OF THE GOVERNOR

## DEPT. OF ENVIRONMENTAL CONSERVATION

### DIVISION OF WATER

401 Certification Program

Non-Point Source Water Pollution Control Program

## NOTICE OF APPLICATION FOR STATE WATER QUALITY CERTIFICATION

Any applicant for a federal license or permit to conduct an activity that might result in a discharge into navigable waters, in accordance with Section 401 of the Clean Water Act of 1977 (PL95-217), also must apply for and obtain certification from the Alaska Department of Environmental Conservation that the discharge will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. By agreement between the U.S. Army Corps of Engineers and the Department of Environmental Conservation, application for a Department of the Army permit to discharge dredged or fill material into navigable waters under Section 404 of the Clean Water Act also may serve as application for State Water Quality Certification.

Notice is hereby given that the application for a Department of the Army Permit described in the Corps of Engineers' Public Notice No. **POA-2005-1295, Harrison Bay, Beaufort Sea** State Water Quality Certification from the Department of Environmental Conservation.

After reviewing the application, the Department may certify that there is reasonable assurance that the activity, and any discharge that might result, will comply with the Clean Water Act, the Alaska Water Quality Standards, and other applicable State laws. The Department also may deny or waive certification.

Any person desiring to comment on the project with respect to Water Quality Certification may submit written comments within 30 days of the date of the Corps of Engineer's Public Notice to:

Department of Environmental Conservation  
WQM/401 Certification  
555 Cordova Street  
Anchorage, Alaska 99501-2617  
Telephone: (907) 269-6281  
FAX: (907) 269-7508



FRANK H. MURKOWSKI, GOVERNOR

# STATE OF ALASKA

OFFICE OF THE GOVERNOR

DEPARTMENT OF NATURAL RESOURCES  
OFFICE OF PROJECT MANAGEMENT AND PERMITTING

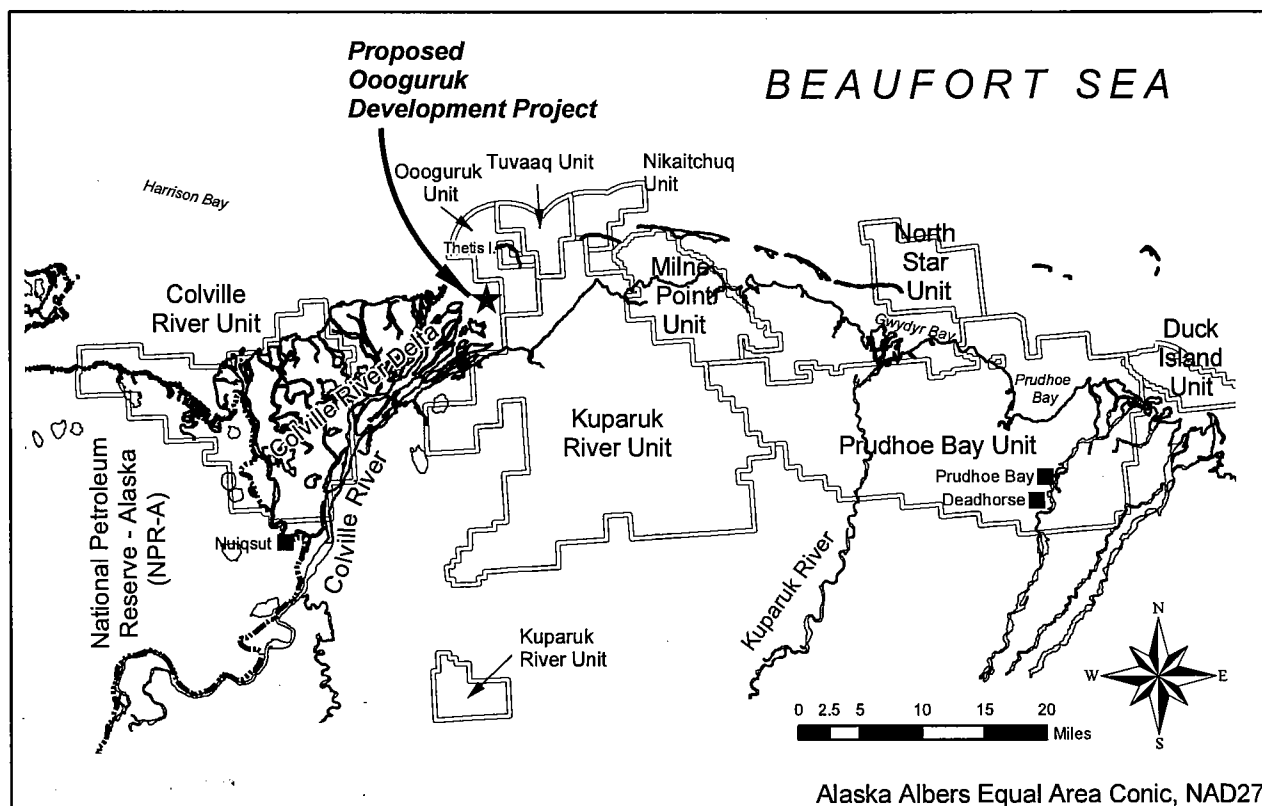
OFFICE OF PROJECT MANAGEMENT AND PERMITTING  
302 GOLD STREET, SUITE 202  
JUNEAU, ALASKA 99801-1127  
PHONE: (907) 465-3562/FAX: (907) 465-3075

NOTICE OF APPLICATION  
FOR  
CERTIFICATION OF CONSISTENCY WITH THE  
ALASKA COASTAL MANAGEMENT PROGRAM

Notice is hereby given that a request is being filed with the Office of Project Management and Permitting for a consistency determination, as provided in Section 307(c)(3) of the Coastal Zone Management Act of 1972, as amended [16 U.S.C. 1456(c)(3)], that the project described in the Corps of Engineers Public Notice No **POA-2005-1295, Harrison Bay, Beaufort Sea** will comply with the Alaska Coastal Management Program and that the project will be conducted in a manner consistent with that program.

This project is being reviewed for consistency with the Alaska Coastal Management Program. Written comments about the consistency of the project with the applicable ACMP statewide standards and district policies must be submitted to the Office of Project Management and Permitting. For information about this consistency review, contact OPMP at (907) 269-7470 or (907) 465-3562, or visit the ACMP web site at <http://www.gov.state.ak.us/gdc/Projects/projects.html>.

Feature	Fill Area (acres)	Fill Volume (cy)	Excavated Volume (cy)
Ooguruk drillsite/production pad (island)	10.85	360,000	N/A
Slope protection bag fill (island)	Included in drillsite footprint.	37,000	N/A
Onshore tie-in processing pad	2.2	25,000	N/A
<b>Buried Flowline System:</b>			
2 Flowline ROW test trenches sea floor disturbance	1.8 (0.4-0.9 acres each trench)	N/A	11,400 (3,000-5,700 each)
2 Flowline test trenches spoils (fill) placed on ice	1.86-3.55 (total 2 trenches)	11,400 (3,000-5,700 each)	N/A
Ooguruk to shore subsea ROW trench	60	450,000	450,000
Thaw stable fill (sand & gravel)	Included in ROW footprint	45,000 (contingency channel filling and strudel scour protection)	N/A
Bundle displacement	Included in ROW footprint	N/A	2,700 (included in ROW trench above)
<b>Shoreline Transition:</b>			
Flowline bundle trench	N/A	10,700 (blasted/excavated)	10,700 (material placed on or adjacent to shoreline transition trench, replaced by thaw stable fill)
Flowline bundle trench thaw stable fill (sand & gravel)	0.5	12,500	Included in Mine Site E volume
<b>Other:</b>			
VSM Slurry	0.1	1,000	1,000
Temporary flowline trench material storage on ice	60	450,000	N/A
Flowline trench residual spoils temporarily entrained in ice	N/A	Diminimus Amount	N/A
<b>TOTAL FILL VOLUME ESTIMATED FOR PROJECT FROM MINE SITE E, CELL 4</b>		360,000+37,000+ 25,000+45,000+12,500+1,000 = 480,500	
<b>Mine Site E:</b>			
Mine Site E Cell 4 excavation footprint	10.1 (50% of Cell 4 footprint)	N/A	500,000
Mine Site E Cell 4 Overburden	Included in Cell 3 footprint below	N/A	208,000
Mine Site E Cell 3 Reclamation	14 (50% of Cell 3 footprint)	208,000 (50% of Cell 4 overburden placed in Cell 3 for reclamation material)	N/A
Mine Site E Cell 4 thermal barriers - temporary fill	0.3 (50% of Cell 4 thermal barriers)	800 (50% of Cell 4 thermal barriers) included in overburden volume above	800 (50% of Cell 4 thermal barriers) included in overburden volume above
<b>TOTAL MINING</b>	<b>14 + 0.30 = 14.3</b>	<b>208,000</b>	<b>500,000 + 208,000 = 708,000</b>
<b>TOTAL PROJECT (does not include temporary fill area (60 acres) or volume (450,000 cy) material placed on ice from ROW trench).</b>	<b>10.85+2.2+3.55+60+0.5+0.1+14 = 91.2</b>	<b>11,400+ 450,000+10,700+480,500+208,000 = 1,160,600</b>	<b>11,400+10,700+1,000+708,000 = 731,100</b>



★ **Proposed Offshore Drillsite Location**

Oil & Gas Unit

National Petroleum Reserve Alaska (NPR-A)

PURPOSE: To Produce Hydrocarbon Resources.

PROJECT LOCATION: Vicinity of the Colville River and Thetis Island, 26 miles northeast of Nuiqsut, 47 miles northwest of Deadhorse, and 8.1 miles northwest of Pad DS-3H (Kuparuk River Unit). North Slope Borough, Beaufort Sea and tundra wetlands.

LATITUDE/LONGITUDE (NAD27): 150° 14.8' W 70° 29.75' N  
PLSS: Township 13N, Range 7E, sections 11, 12, 13; Township 13N, Range 8E, sections 18, 19, 20, 28, 29, and 33; and Township 12 N, Range 8E, sections 2, 3, 11, and 12, Umiat Meridian.

**ADJACENT OWNERS:**

-Armstrong Oil and Gas, Suite 1400 Legacy Tower, 700 17th Street, Denver, CO 80202.

-ConocoPhillips Alaska, Inc., PO Box 100360, Anchorage, AK 99510-0360.

-BP Exploration (Alaska), Inc., PO Box 196612, Anchorage, AK 99519-6612.

-UNOCAL, 909 West 9th Avenue, Anchorage, AK 99501.

-ExxonMobil Alaska, PO Box 2305, Houston, Texas 77252-2305.

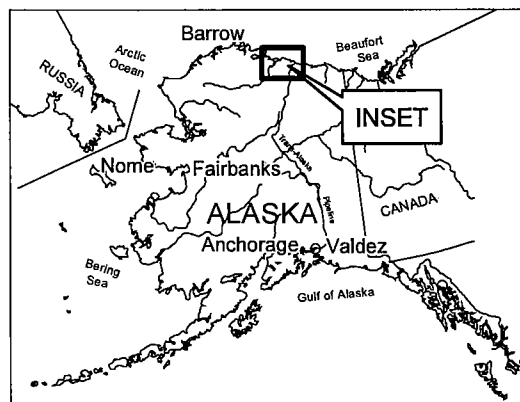
-Anadarko Petroleum Contractors, 3201 C Street, Suite 603, Anchorage, AK 99503.

-Helmericks, Pouch 340012, Prudhoe Bay, AK 99734.

-Alaska Department of Natural Resources, Commissioner's Office, 550 W. 7th Ave, Suite 1400, Anchorage, AK 99501.

-XTO Energy Inc., 810 Houston Street, Fort Worth, TX 76102-6298.

-Kerr McGee, Corporate Headquarters, 123 Robert S. Kerr Avenue, Oklahoma City, OK 73102.



**VICINITY MAP**

**Proposed Oooguruk Development Project**

**Proposed Offshore Drillsite  
Proposed Offshore and Onshore  
Flowlines**

**Proposed Onshore Production  
Tie-In Pad**

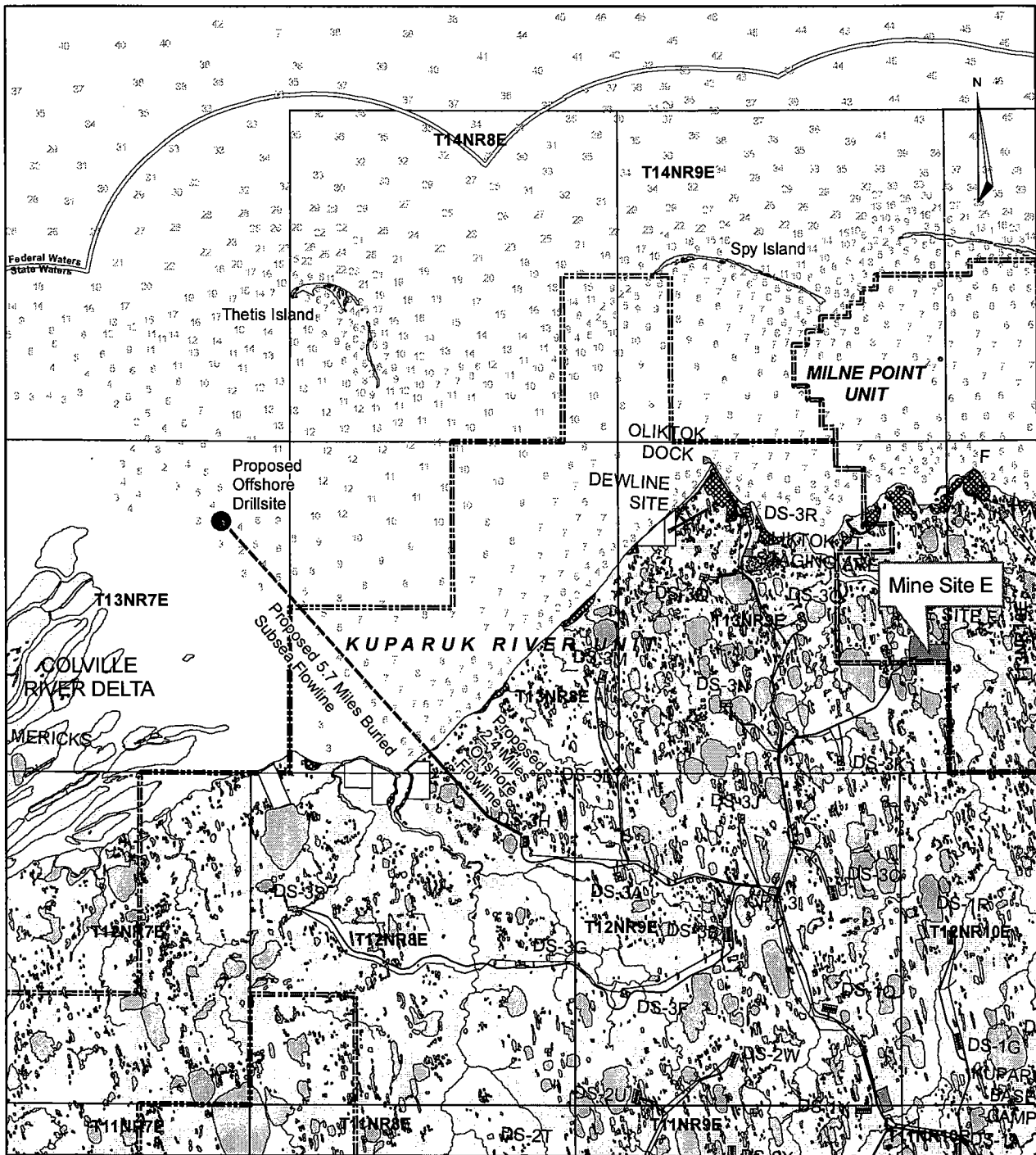
**File No. POA-2005-1295**

JULY 2005

SHEET 01 OF 34



**PIONEER NATURAL  
RESOURCES ALASKA, INC.**



- Proposed Offshore Drillsite Location
- Proposed Flowline Route - Onshore
- - - Proposed Flowline Route - Buried Subsea
- Native Allotment
- ▤ Kuparuk River and Milne Point Oil & Gas Units
- Federal/State Waters Boundary
- ▨ Salt & Brackish Water Marshes

0 1 2 Miles

NAD27, AK State Plane Zone 4.  
Ulmert Meridian.  
Bathymetry in feet (MLLW).  
MLLW=Mean Lower Low Water  
Salt and Brackish Water Marshes  
provided by NOAA.

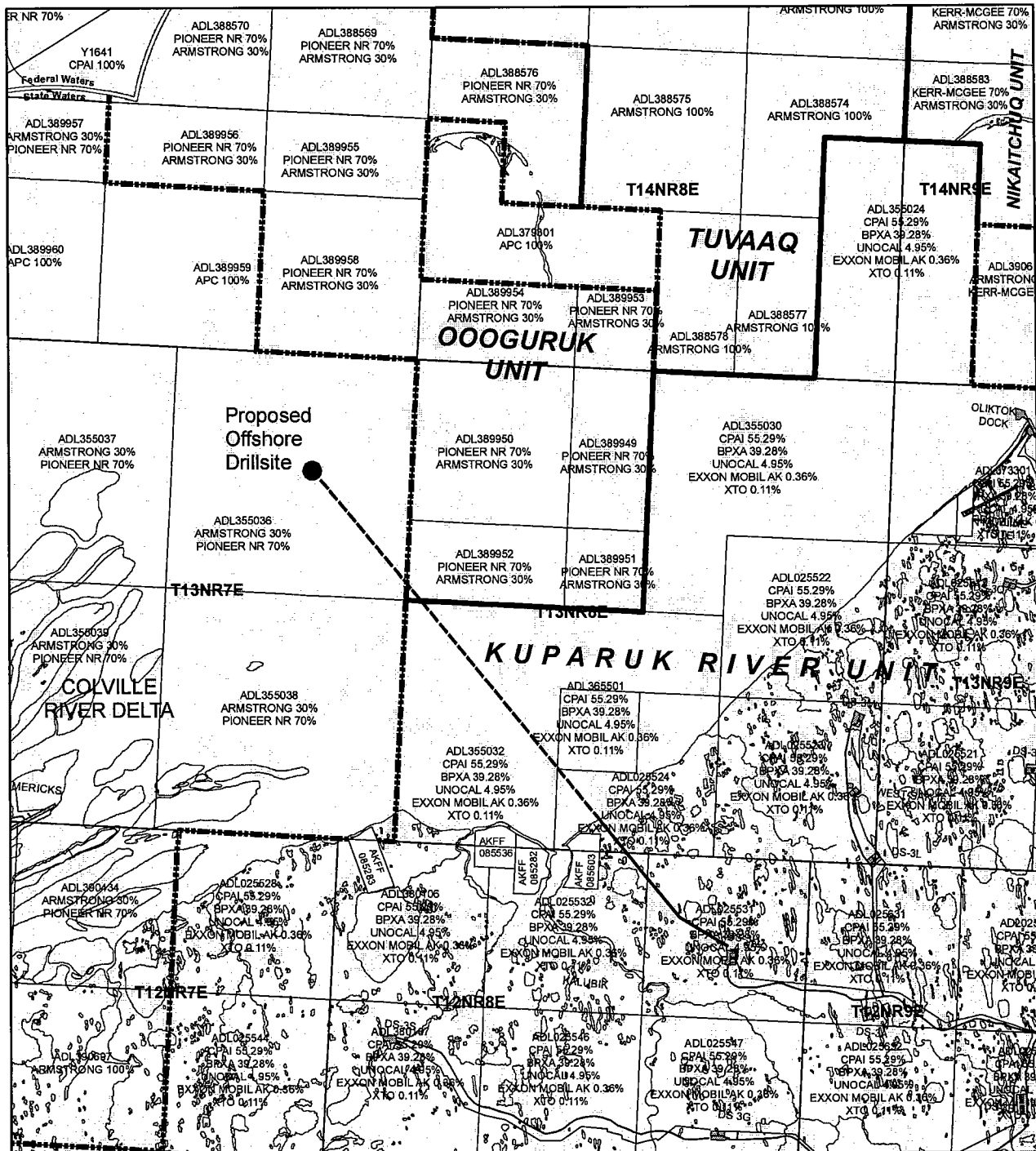
**PLAN VIEW**  
**Proposed Oooguruk**  
**Development Project**  
**File No. POA-2005-1295**

JULY 2005

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**PIONEER NATURAL**  
**RESOURCES ALASKA, INC.**



- Proposed Offshore Drillsite Location
- Proposed Flowline Route - Onshore
- - - Proposed Flowline Route - Buried Subsea
- Oil & Gas Unit
- Oil & Gas Lease
- Native Allotment
- Federal/State Waters Boundary

N

0 0.5 1 Mile

NAD27, AK State Plane Zone 4.  
Umiat Meridian.

Oil & Gas lease data provided by  
Mapmakers Alaska, Inc. 2001(c)

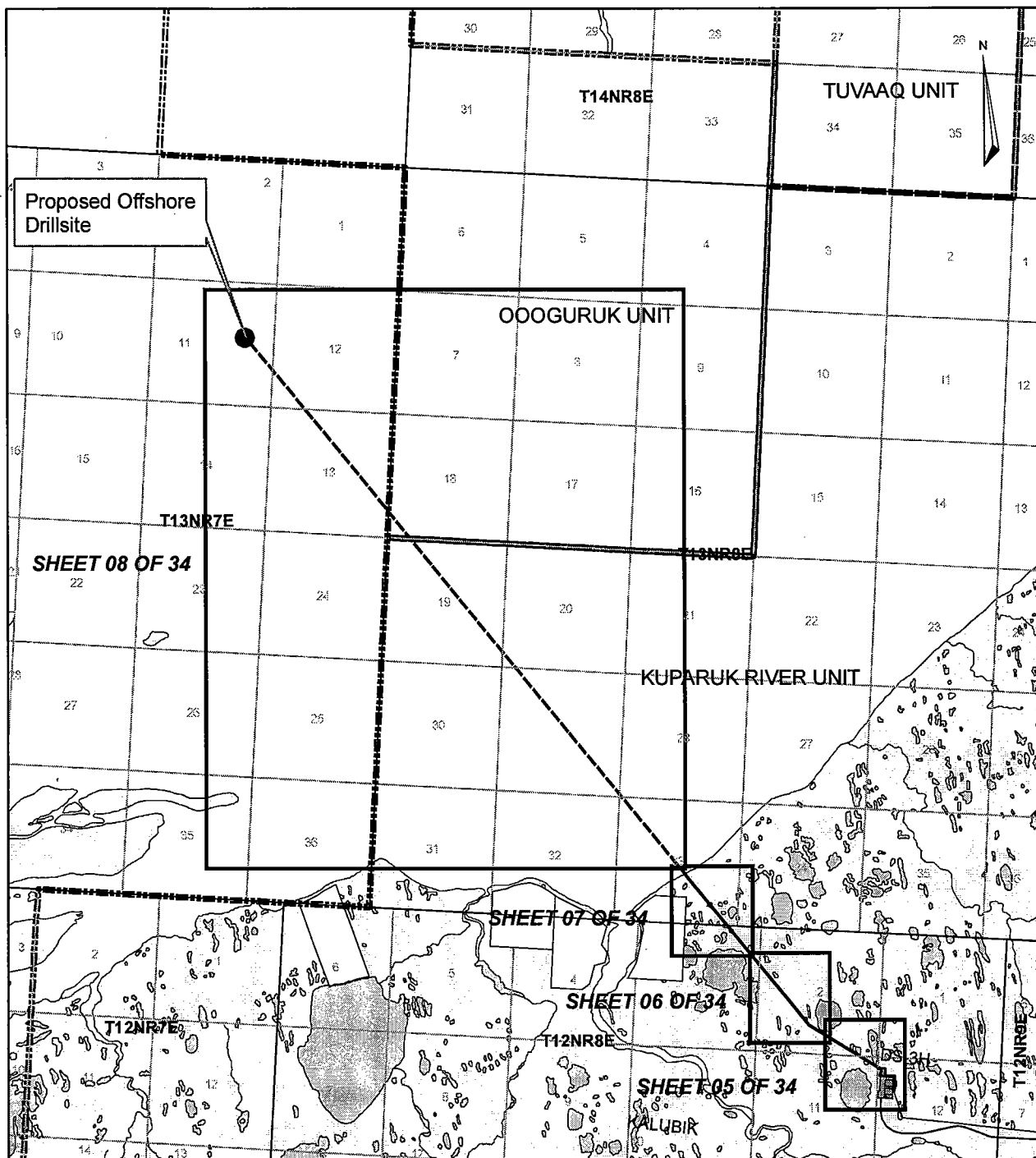
**LEASE MAP**  
**Proposed Oooguruk**  
**Development Project**  
**File No. POA-2005-1295**

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**PIONEER NATURAL**  
**RESOURCES ALASKA, INC.**



- Proposed Offshore Drillsite Location
- Proposed Flowline Route - Onshore
- - - Proposed Flowline Route - Buried Subsea
- Oil & Gas Unit
- Native Allotment

0 0.5 1 Mile

NAD27, AK State Plane Zone 4, UTM Meridian.

#### DETAIL VIEW INDEX

**Proposed Oooguruk  
Development Project**

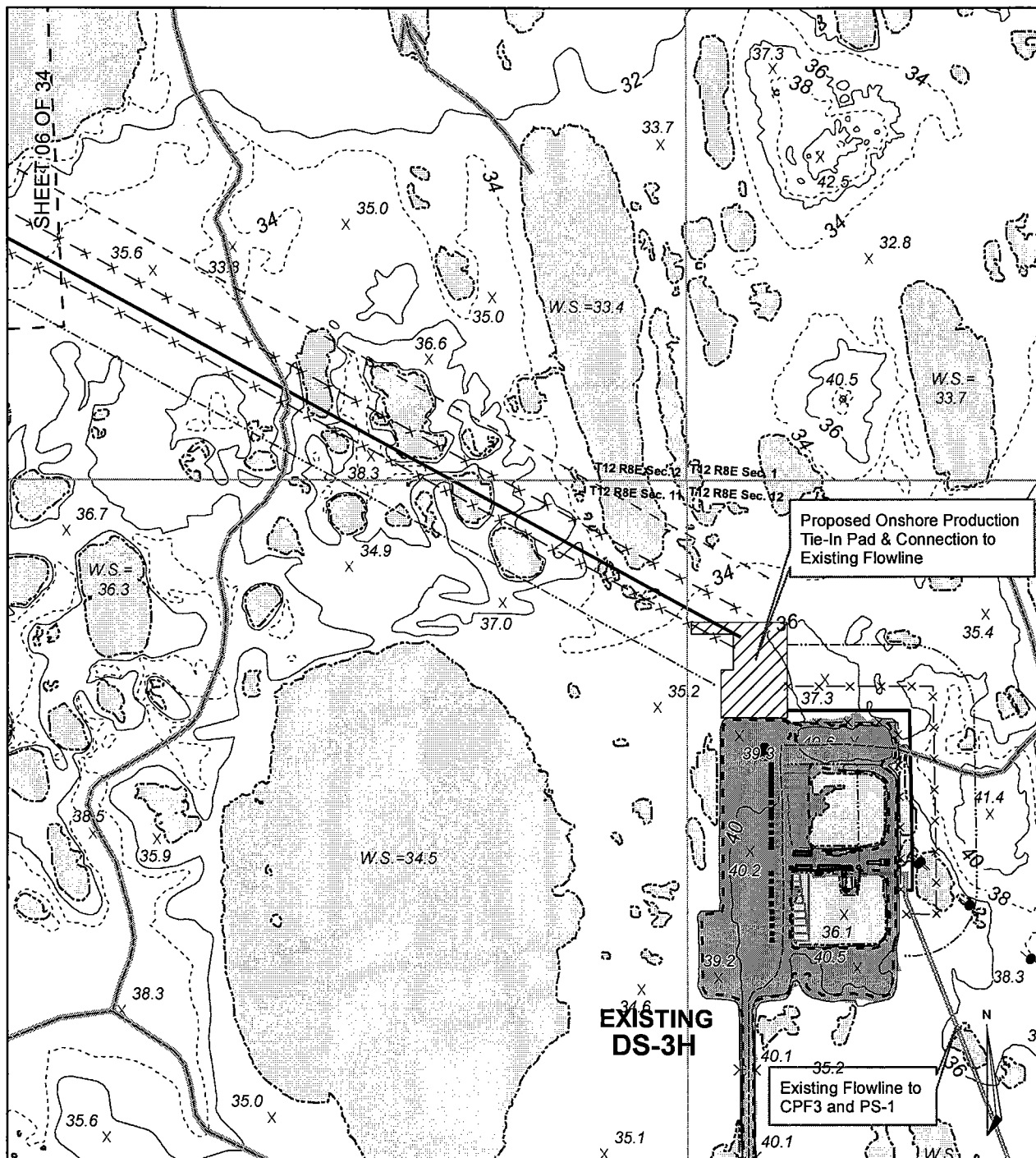
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**PIONEER NATURAL  
RESOURCES ALASKA, INC.**



Proposed Onshore Production Tie-In Pad

Proposed Flowline Route - Onshore

Construction Right-Of-Way

Operation Right-Of-Way

Watershed/Surface Flow

Note: Right-Of-Way (ROW) dimensions for construction of the onshore flowline are 220 ft to the NE and 180 ft to the SW. During operation the ROW is 80 ft to the NE and 40 ft to the SW.

0 250 500 Feet

NAD27, AK State Plane Zone 4, Urmist Meridian.  
Elevation 5 ft Contours BPMSL

W.S. = Water Surface Elevation

#### DETAIL VIEW

#### Proposed Oooguruk

#### Development Project

File No. POA-2005-1295

JULY 2005

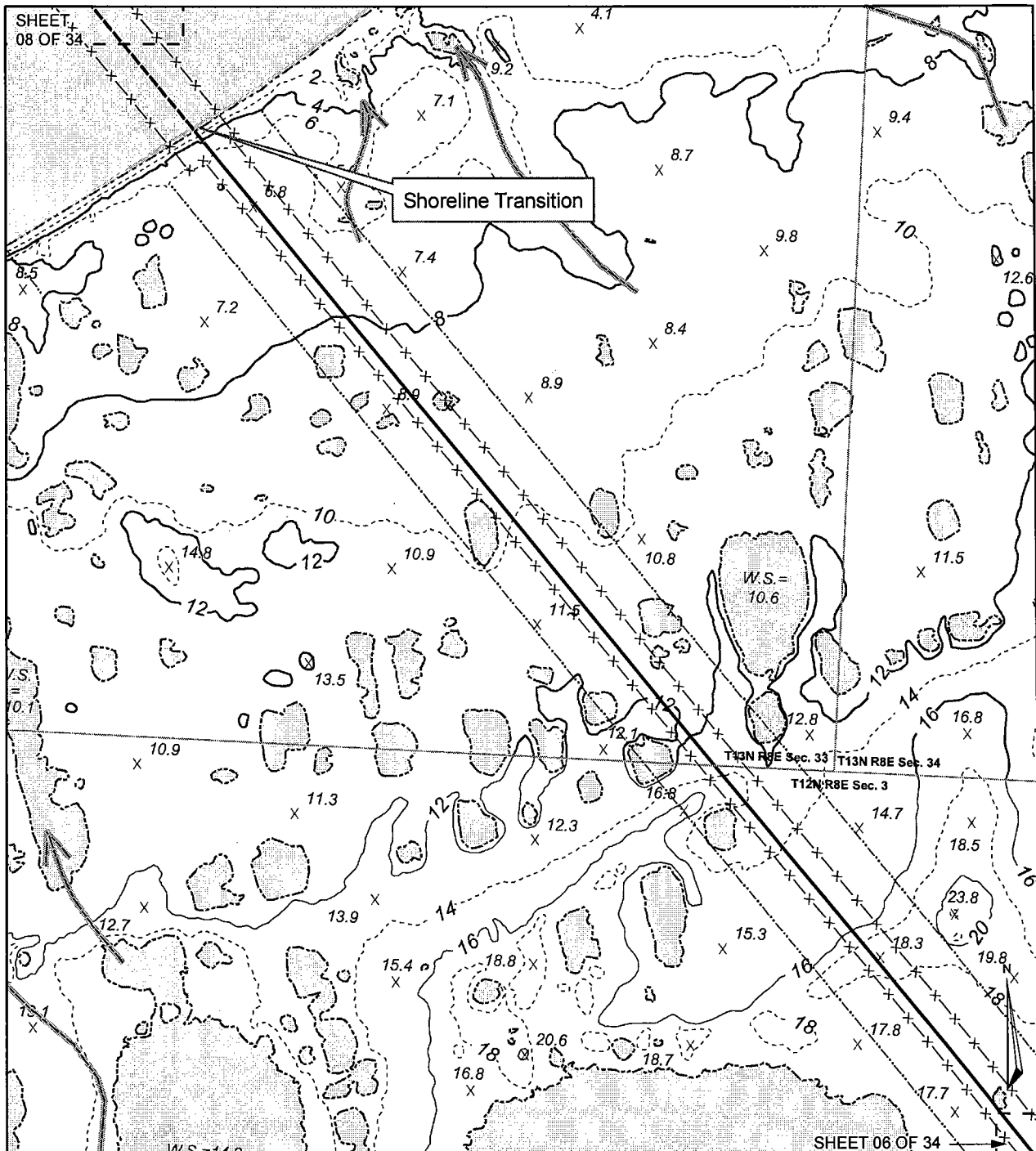
SHEET 05 OF 34



PIONEER NATURAL  
RESOURCES ALASKA, INC.







— Proposed Flowline Route - Onshore  
 - - - Proposed Flowline Route - Buried Subsea  
 - - - Construction Right-Of-Way  
 x-x-x Operation Right-Of-Way  
 — Watershed/Surface Flow

0 250 500 Feet  
 NAD27, AK State Plane Zone 4, Umiat Meridian.  
 Elevation 5 ft Contours BPMSL

Note: Right-Of-Way (ROW) dimensions for construction of the offshore flowline is 750 ft on both sides of the centerline. ROW dimensions for construction of the onshore flowline are 220 ft to the NE and 180 ft to the SW. During operation the ROW for the offshore flowline is 50 feet on either side of the centerline, and 80 ft to the NE and 40 ft to the SW for the onshore flowline.

W.S. = Water Surface Elevation

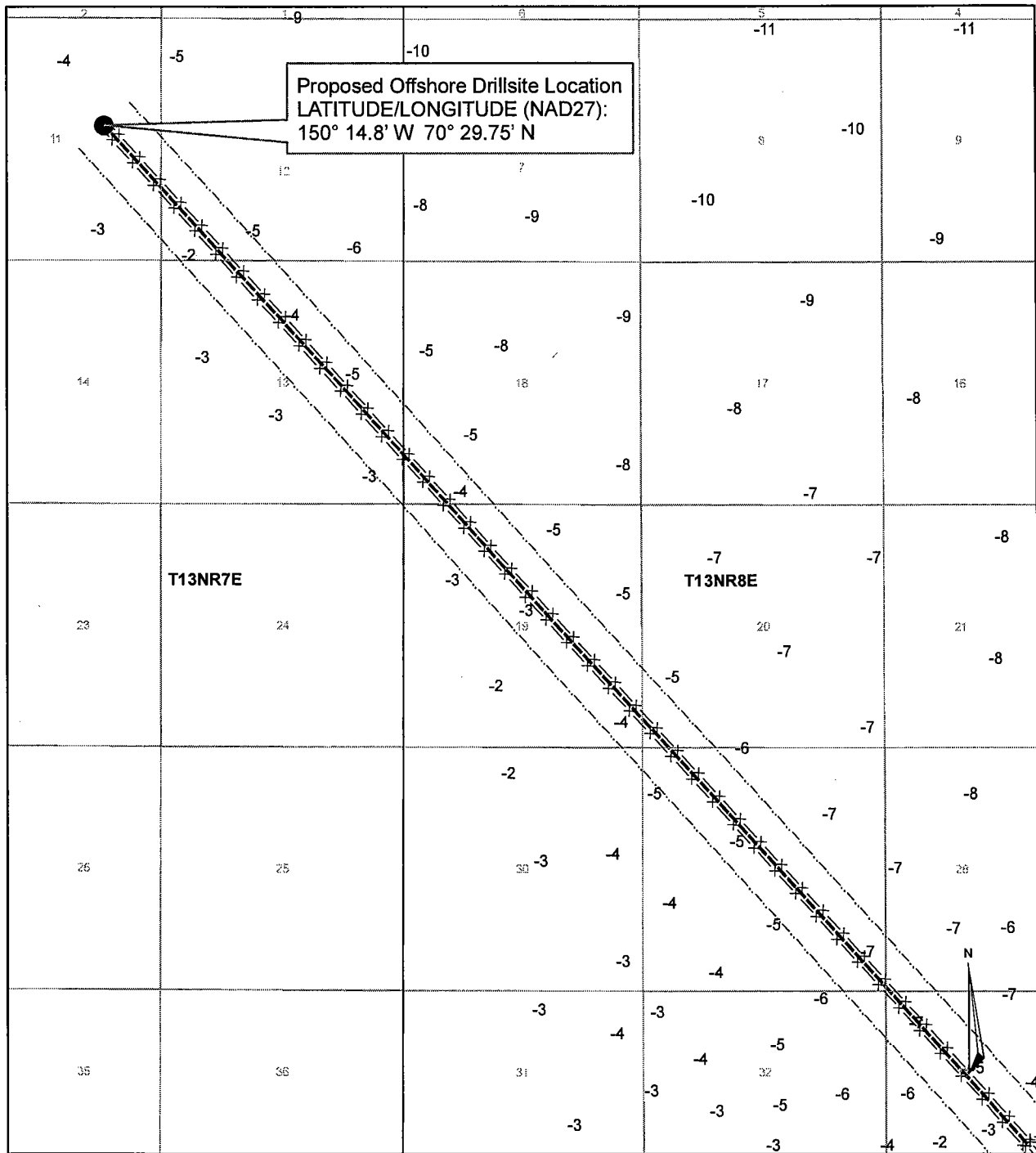
**DETAIL VIEW**

**Proposed Ooguruk Development Project**

**File No. POA-2005-1295**

JULY 2005 SHEET 07 OF 34

**PIONEER NATURAL RESOURCES ALASKA, INC.**




● Proposed Offshore Drillsite Location  
 - - - - - Construction Right-Of-Way  
 x - x - Operation Right-Of-Way  
 - - - - - Proposed Flowline Route - Buried Subsea

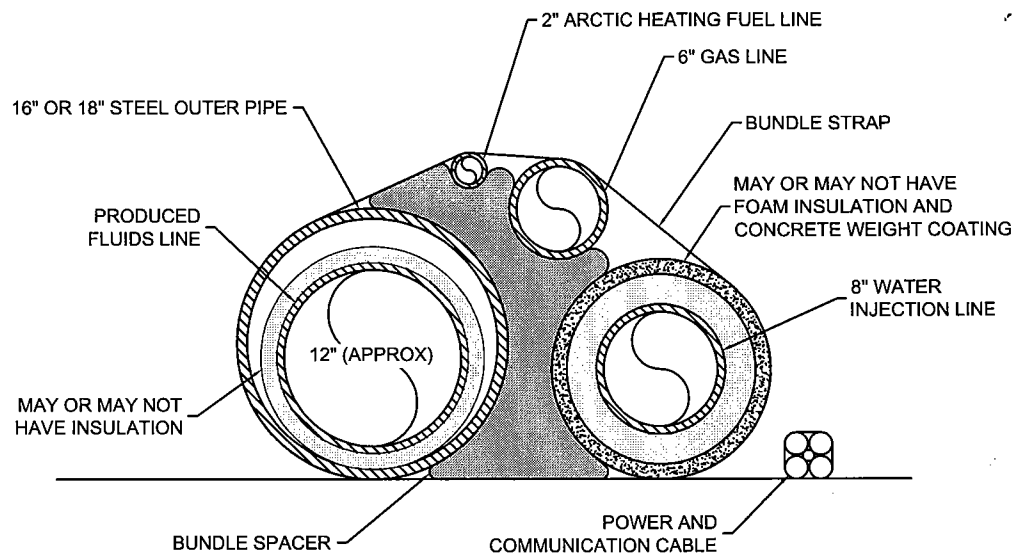
Note: Right-Of-Way (ROW) dimensions for construction of the offshore flowline is 750 ft on both sides of the centerline. During operation the ROW is 50 ft on both sides of the flowline centerline.

0 0.5 1 Miles  
 NAD27, AK State Plane Zone 4, Umiat Meridian.  
 Bathymetry in feet (MLLW).  
 MLLW= Mean Lower Low Water.

**DETAIL VIEW**  
**Proposed Oooguruk**  
**Development Project**  
**File No. POA-2005-1295**

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**PIONEER NATURAL**  
**RESOURCES ALASKA, INC.**



FLOWLINE BUNDLE CONFIGURATION

**NOT TO SCALE**

Note: Final pipe diameters and insulation requirements will be determined during detailed engineering design. (Anticipated Fall 2005)

**PROPOSED FLOWLINE  
BUNDLE CONFIGURATION**

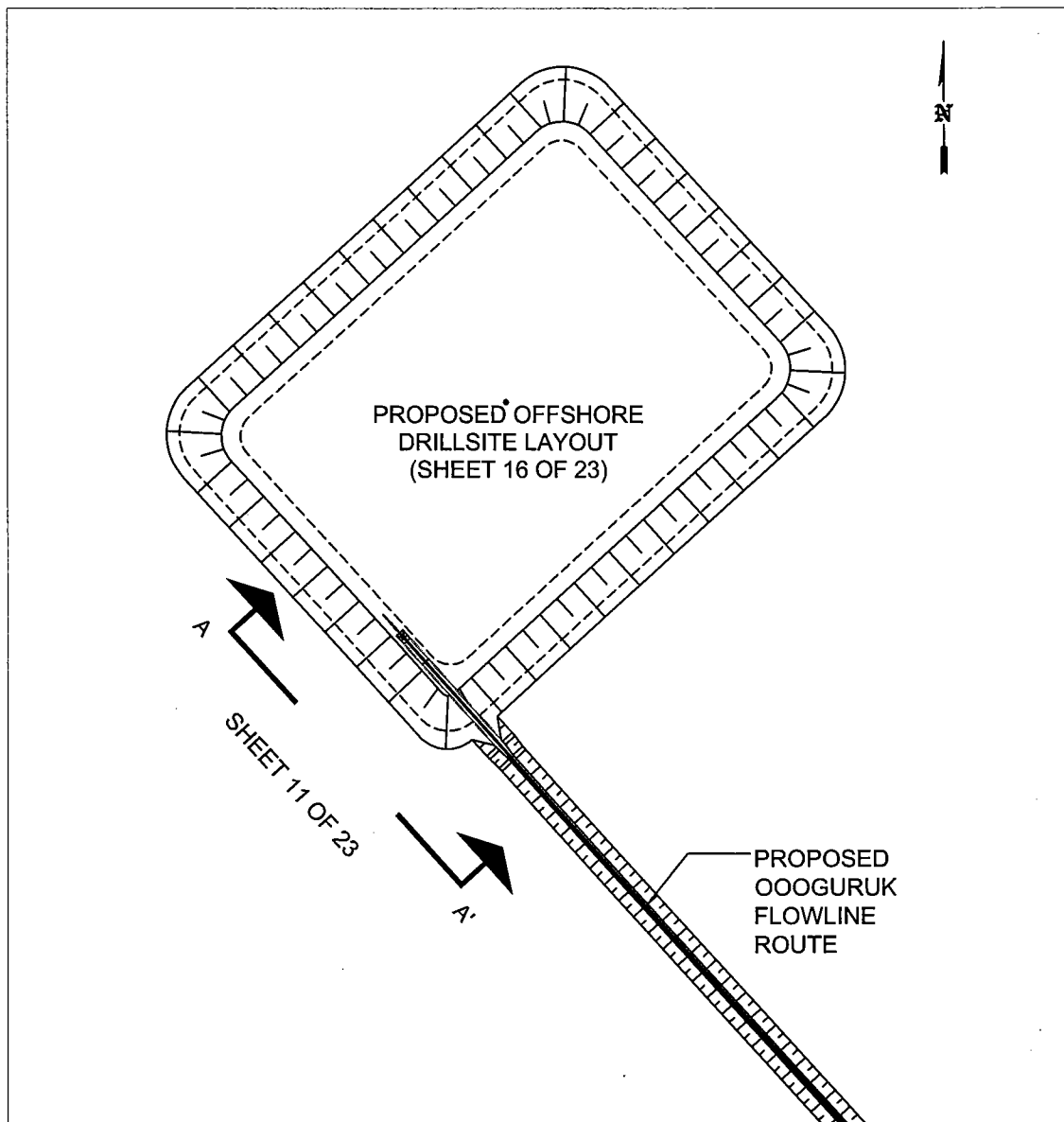
**Proposed Oooguruk  
Development Project  
File No. POA-2005-1295**

JULY 2005

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PIONEER NATURAL  
RESOURCES ALASKA, INC.



NOT TO SCALE

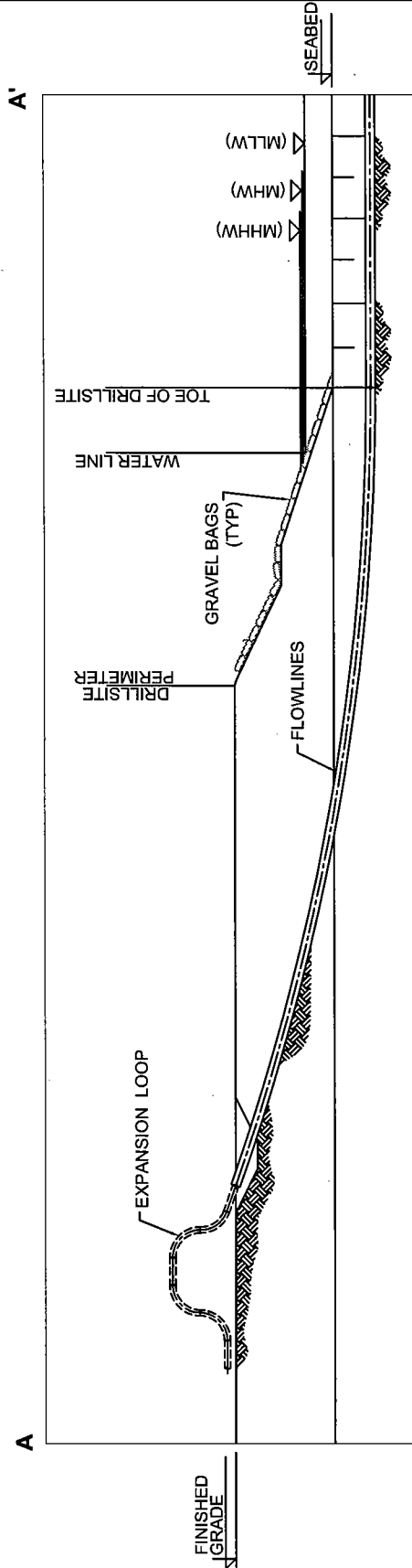
**PROPOSED FLOWLINE  
BUNDLE OFFSHORE  
DRILLSITE APPROACH  
Proposed Oooguruk  
Development Project  
File No. POA-2005-1295**

JULY 2005

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PIONEER NATURAL  
RESOURCES ALASKA, INC.



SECTION A-A'  
NOT TO SCALE

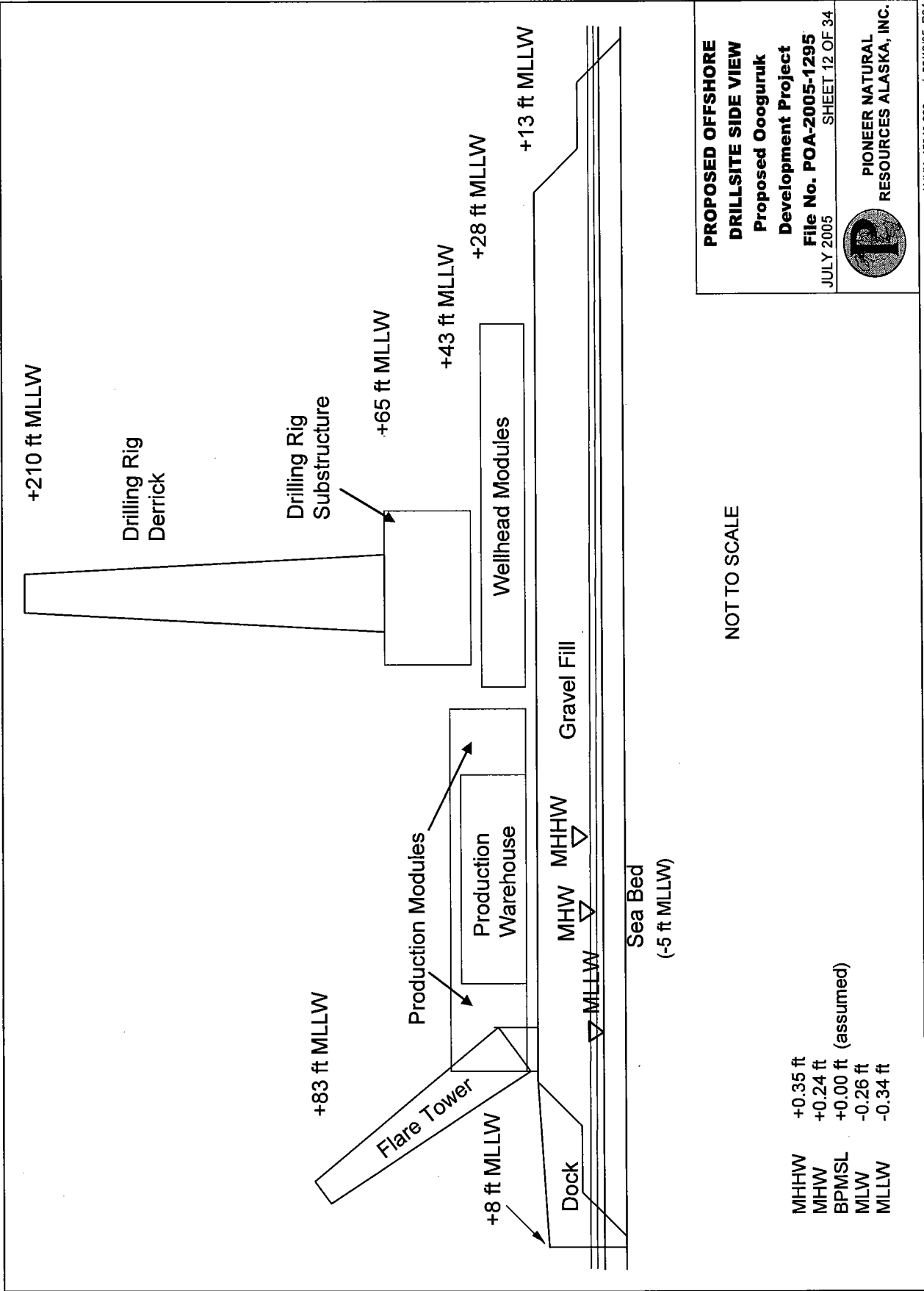
VIEW TO THE EAST FROM THE WEST (SEE SHEET 10)

Mean Higher High Water (MHHW) +0.35 ft  
 Mean High Water (MHW) +0.24 ft  
 British Petroleum Mean Sea Level (BPMSL) +0.00 ft (assumed)  
 Mean Low Water (MLW) -0.26 ft  
 Mean Lower Low Water (MLLW) -0.34 ft

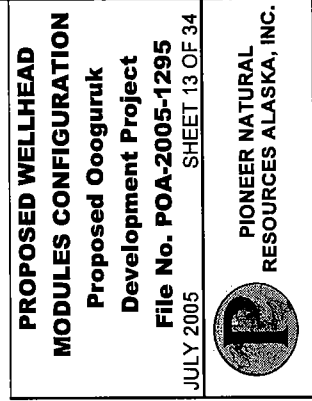
**PROPOSED FLOWLINE BUNDLE  
 OFFSHORE DRILLSITE  
 APPROACH - PROFILE**  
 Proposed Oooguruk  
 Development Project  
 File No. POA-2005-1295  
 JULY 2005 SHEET 11 OF 34



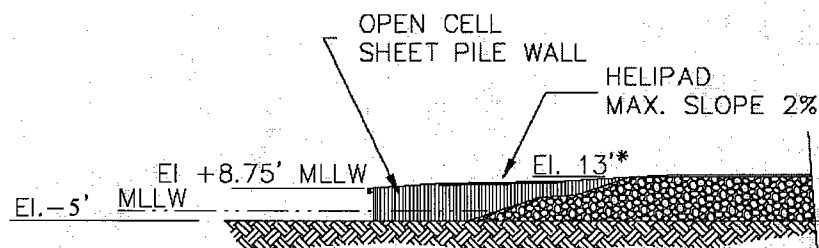
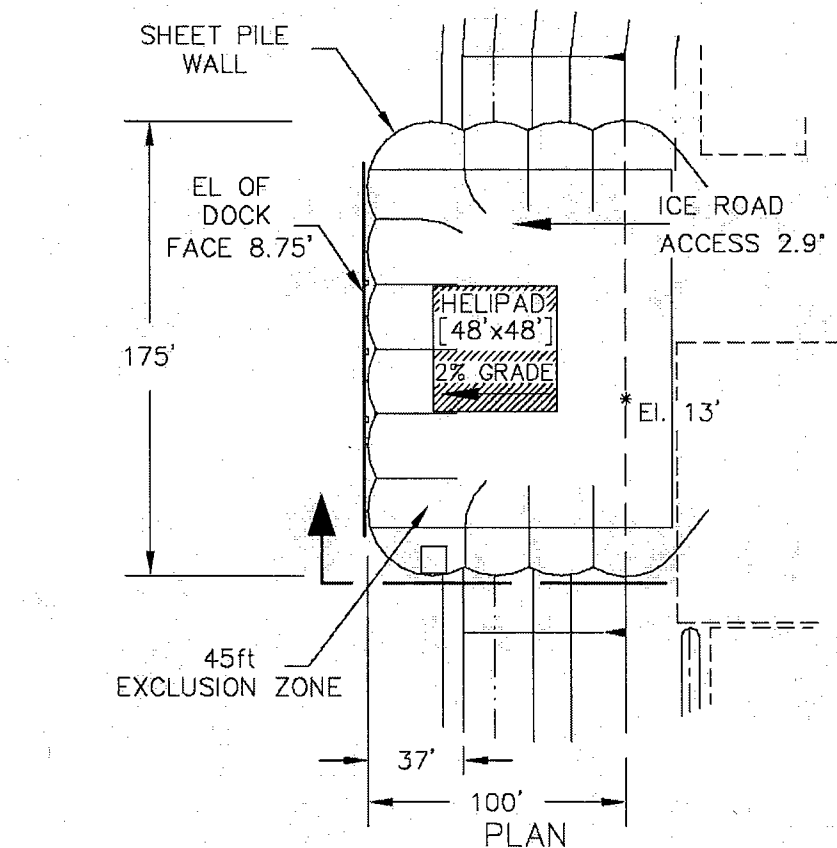
PIONEER NATURAL  
 RESOURCES ALASKA, INC.



## WELLHEAD MODULE 2



**Typical Wellhead Containment  
Modules Arrangement  
NOT TO SCALE**  
Approximately 1,500 square ft. each



SECTION

NOTE \* EL. MAY VARY  
WITH DRAINAGE PATTERN

MHHW	+0.35 ft
MHW	+0.24 ft
BPMSL	+0.00 ft (assumed)
MLW	-0.26 ft
MLLW	-0.34 ft

**BOAT DOCK-PROFILE**  
**Propoed Oooguruk**  
**Development Project**  
**File No. POA-2005-1295**

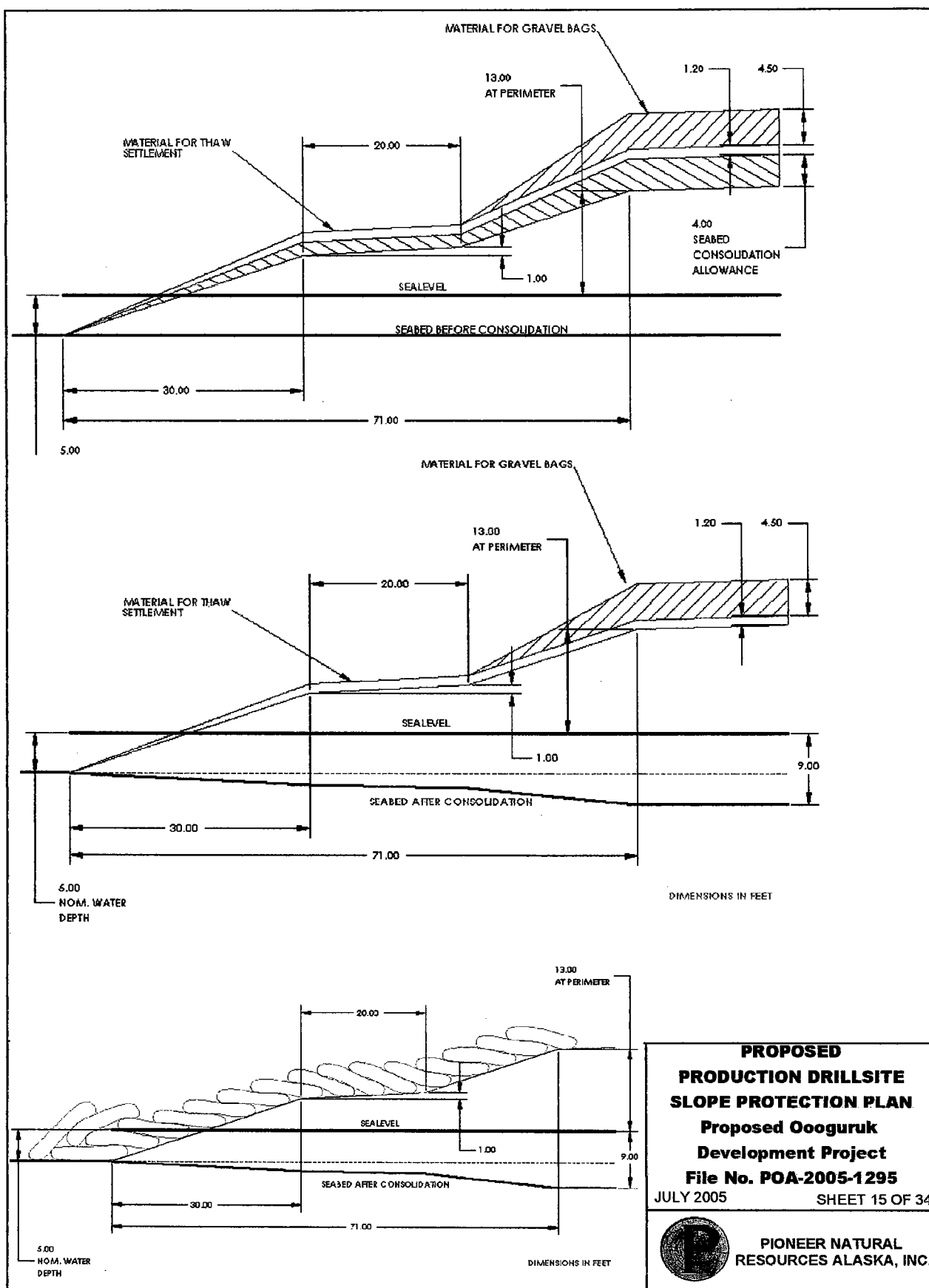
JULY 2005

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**PIONEER NATURAL  
RESOURCES ALASKA, INC.**





**PROPOSED  
PRODUCTION DRILLSITE  
SLOPE PROTECTION PLAN**  
**Proposed Ooguruk  
Development Project**  
**File No. POA-2005-1295**

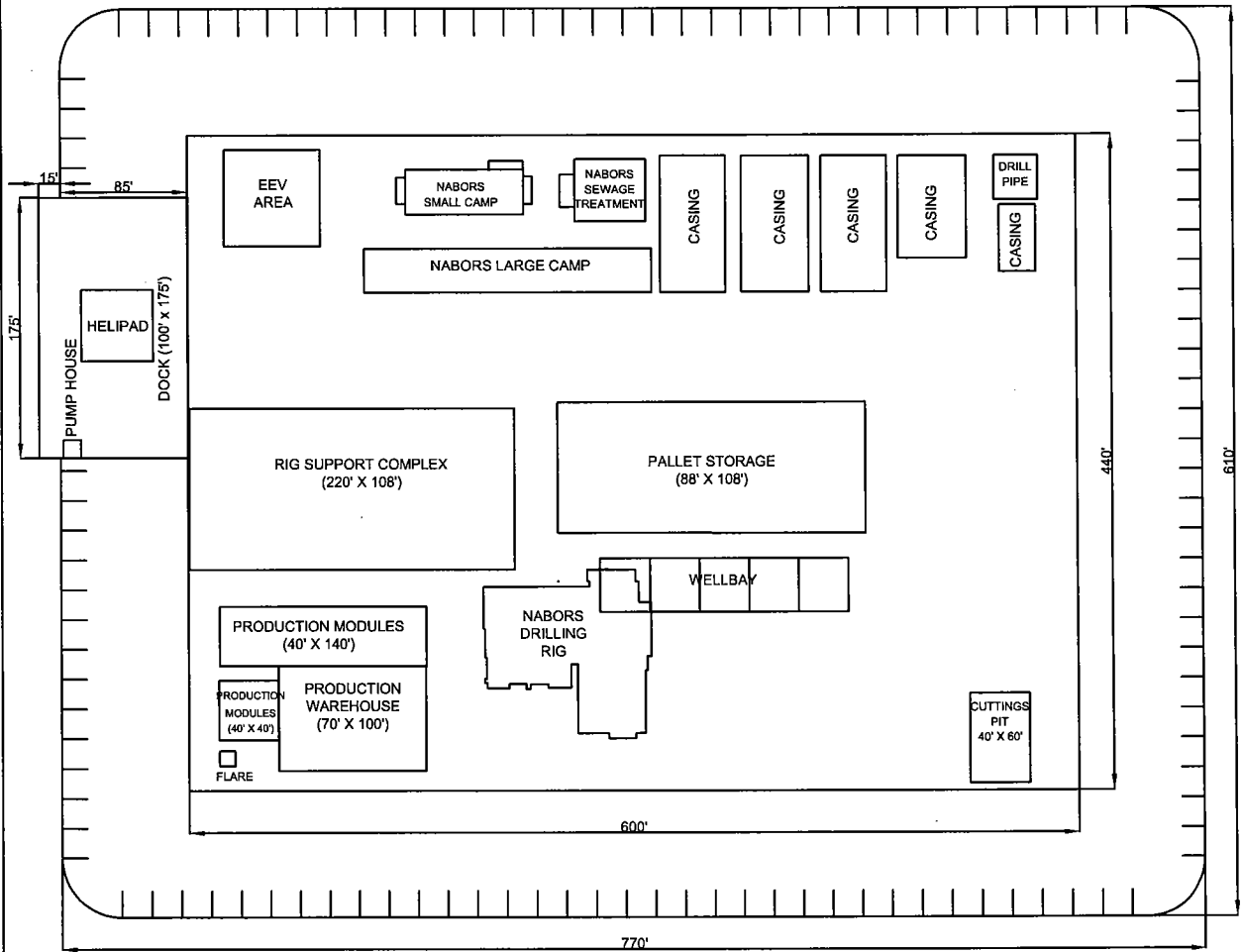
JULY 2005

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**PIONEER NATURAL  
RESOURCES ALASKA, INC.**

# **PROPOSED PRELIMINARY DRILLSITE PAD LAYOUT**

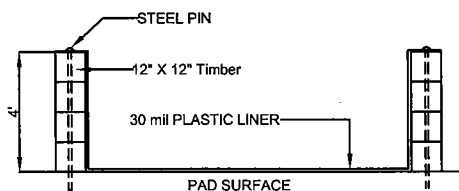


Approx. 6 acres (Working Surface), 10.85 acres (Footprint)

NOT TO SCALE

NOTE:  
Dimensions for the facilities are to scale in relation to the drillsite pad layout. Exact dimensions have yet to be determined.

## **PROPOSED CUTTINGS PIT CROSS SECTION DETAIL**



## **PROPOSED OFFSHORE DRILLSITE PAD LAYOUT**

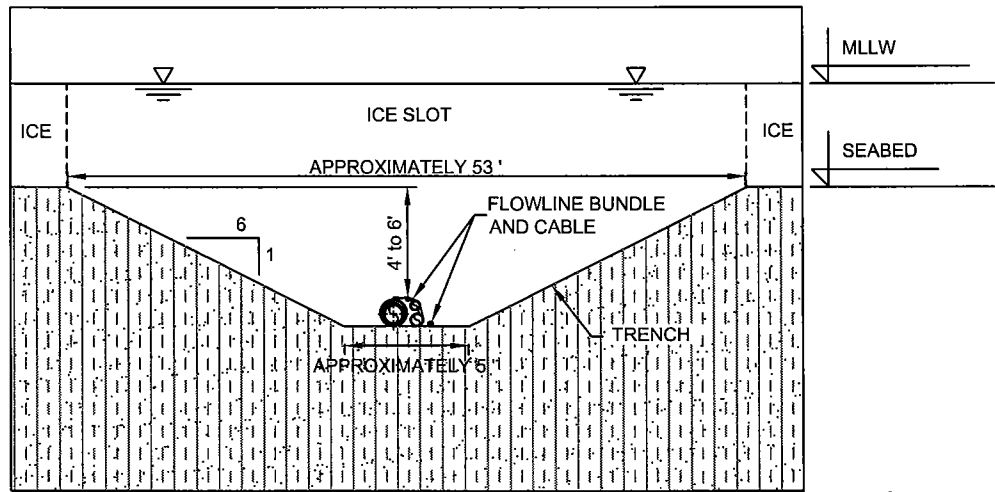
**Proposed Oooguruk  
Development Project  
File No. POA-2005-1295**

JULY 2005

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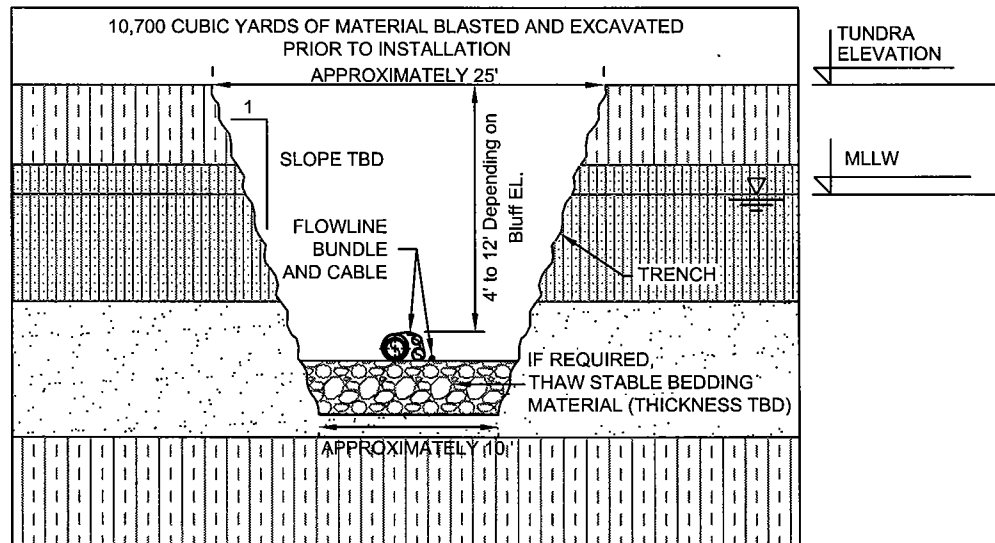


**PIONEER NATURAL  
RESOURCES ALASKA, INC.**



**TYPICAL OFFSHORE  
SECTION DETAIL  
NOT TO SCALE**

Note: Average Width of the Trench is 53 feet



**TYPICAL SHORE CROSSING  
SECTION DETAIL  
NOT TO SCALE**

NOTES  
EL= Elevation  
TBD= To Be Determined  
Note: See Plan of Operations for  
Revegetation Information-SECTION 6.3.

**PROPOSED FLOWLINE  
BUNDLE  
TRENCH CROSS-SECTIONS**

**Proposed Oooguruk  
Development Project**

**File No. POA-2005-1295**

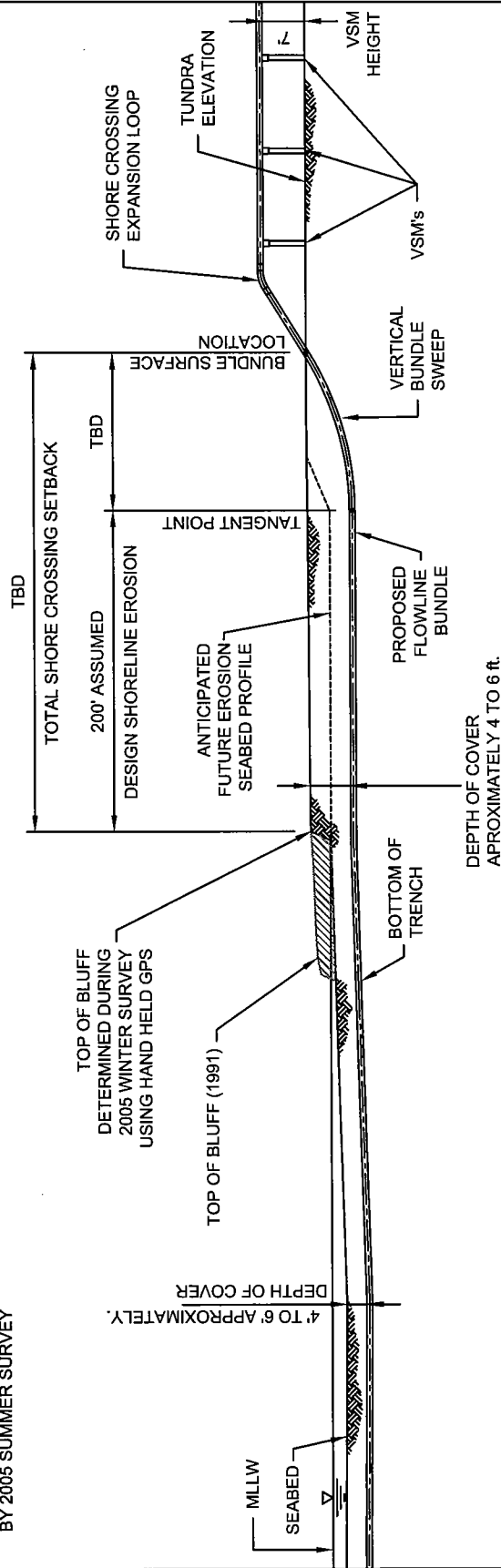
JULY 2005

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PIONEER NATURAL  
RESOURCES ALASKA, INC.

PROFILE ESTIMATED BY WINTER SURVEY AND  
1991 AEROMAP PHOTOS. TO BE CONFIRMED  
BY 2005 SUMMER SURVEY



# SHORE CROSSING PROFILE NOT TO SCALE

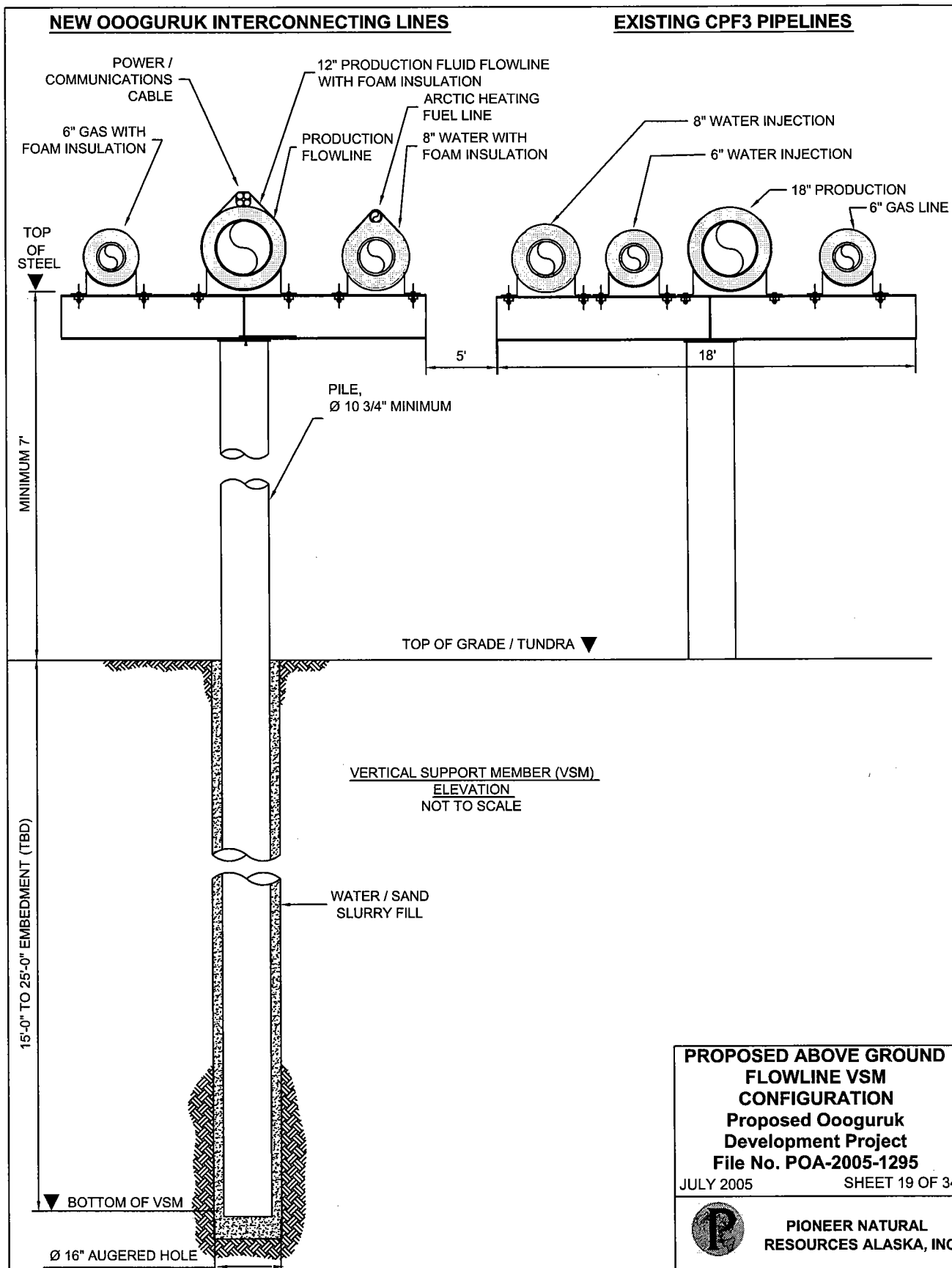
MHHW +0.35 ft  
MHW +0.24 ft  
BPM SL +0.00 ft (assumed)  
MLW -0.26 ft  
MLLW -0.34 ft

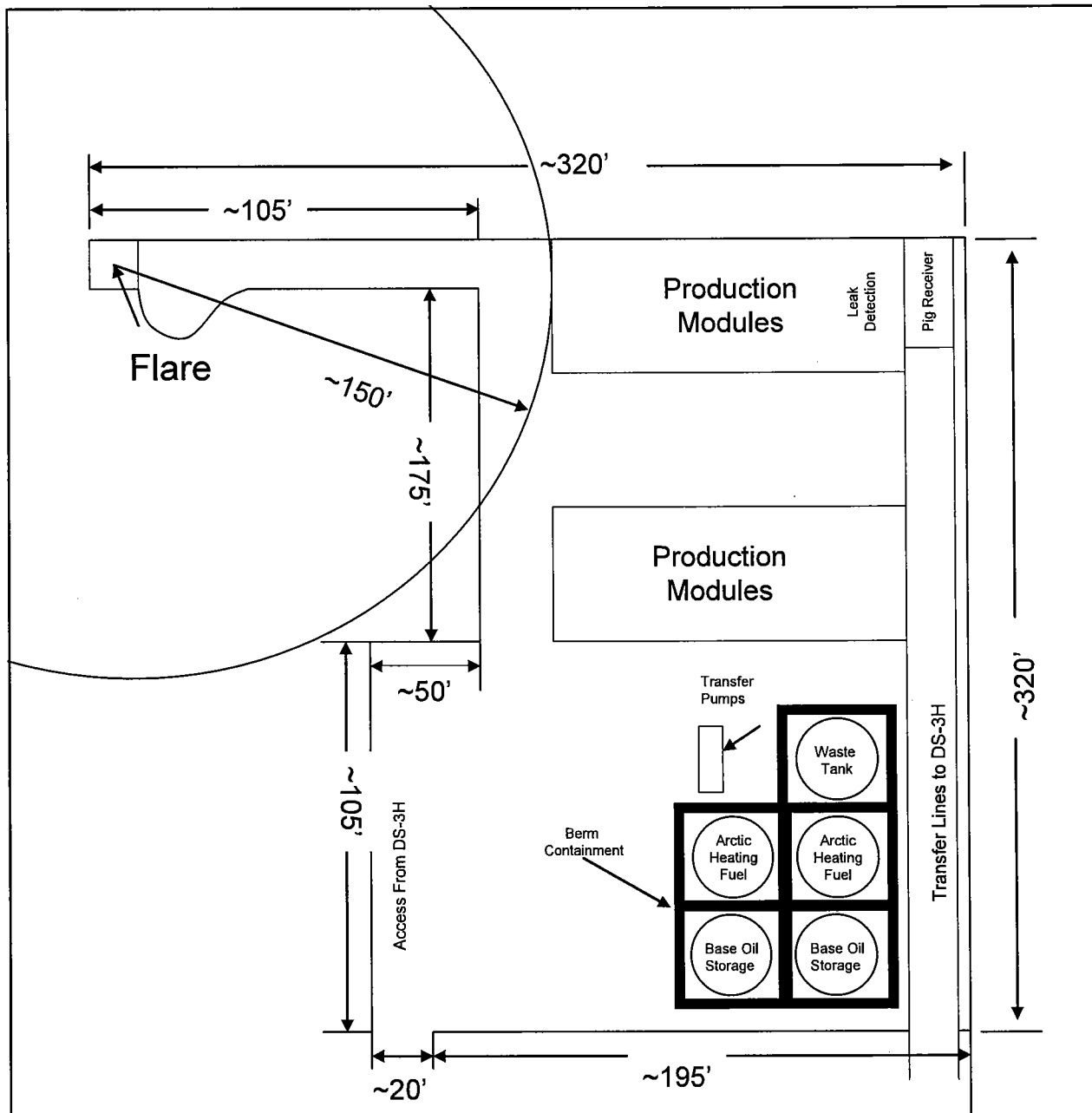
**PROPOSED FLOWLINE  
BUNDLE SHORE CROSSING**  
Proposed Oooguruk  
Development Project  
File No. POA-2005-1295

JULY 2005 SHEET 18 OF 34



PIONEER NATURAL  
RESOURCES ALASKA, INC.





NOT TO SCALE

Approx. 1.7 Acres (Working Area)  
 Approx. 2.2 Acres (Footprint)  
 Tanks Are 600 Barrels Each

**PROPOSED ONSHORE  
 PRODUCTION TIE-IN PAD  
 LAYOUT**

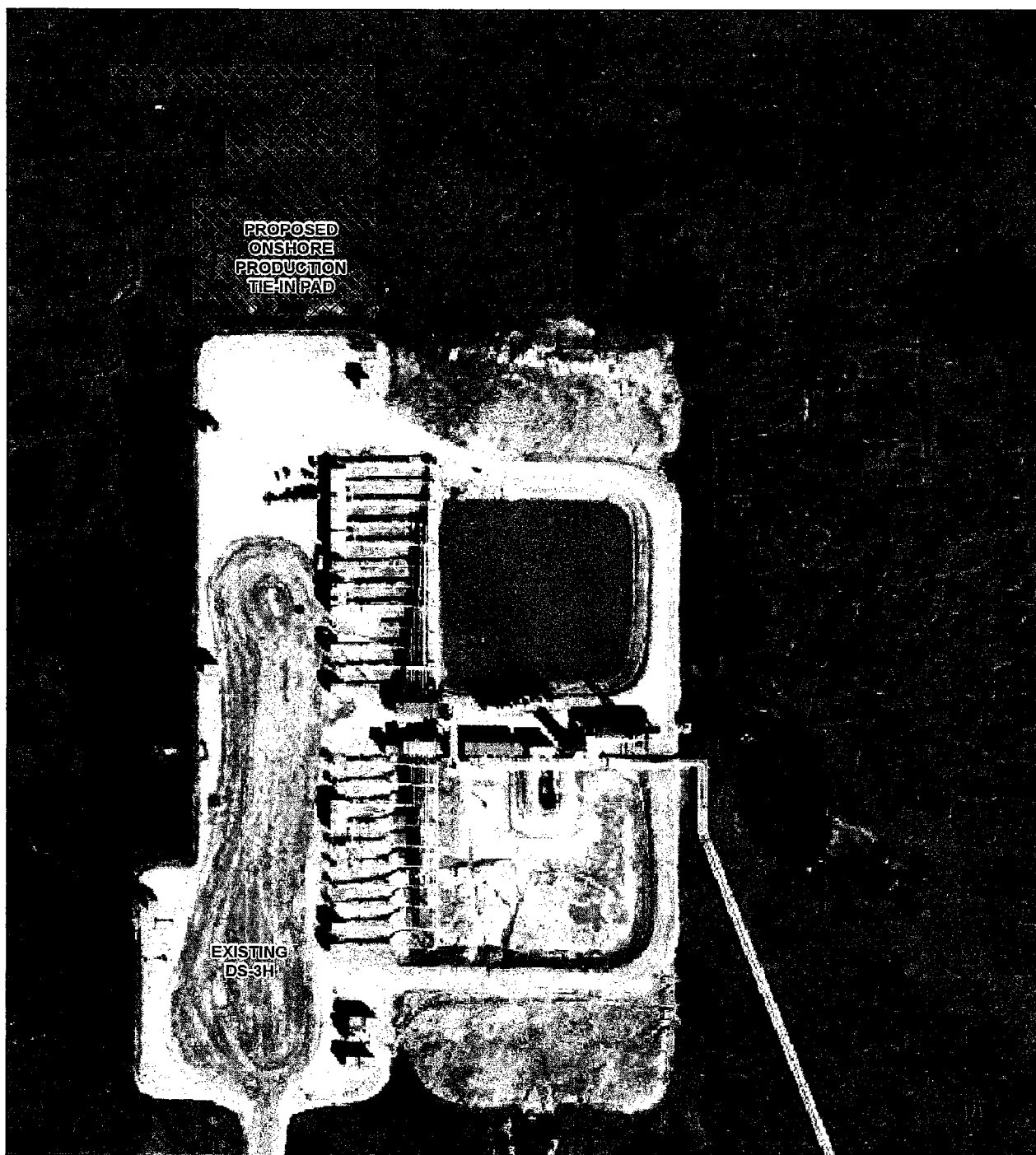
**Proposed Oooguruk  
 Development Project  
 File No. POA-2005-1295**

JULY 2005

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**PIONEER NATURAL  
 RESOURCES ALASKA, INC.**



----- Proposed Flowline Route - Onshore

 Onshore Production Tie-In Pad

0 50 100 200 Feet



NAD 1927 AK State Plane Zone 4  
Aerial Photography provided by Aeromap  
US and Conoco Phillips Alaska dated 2004.

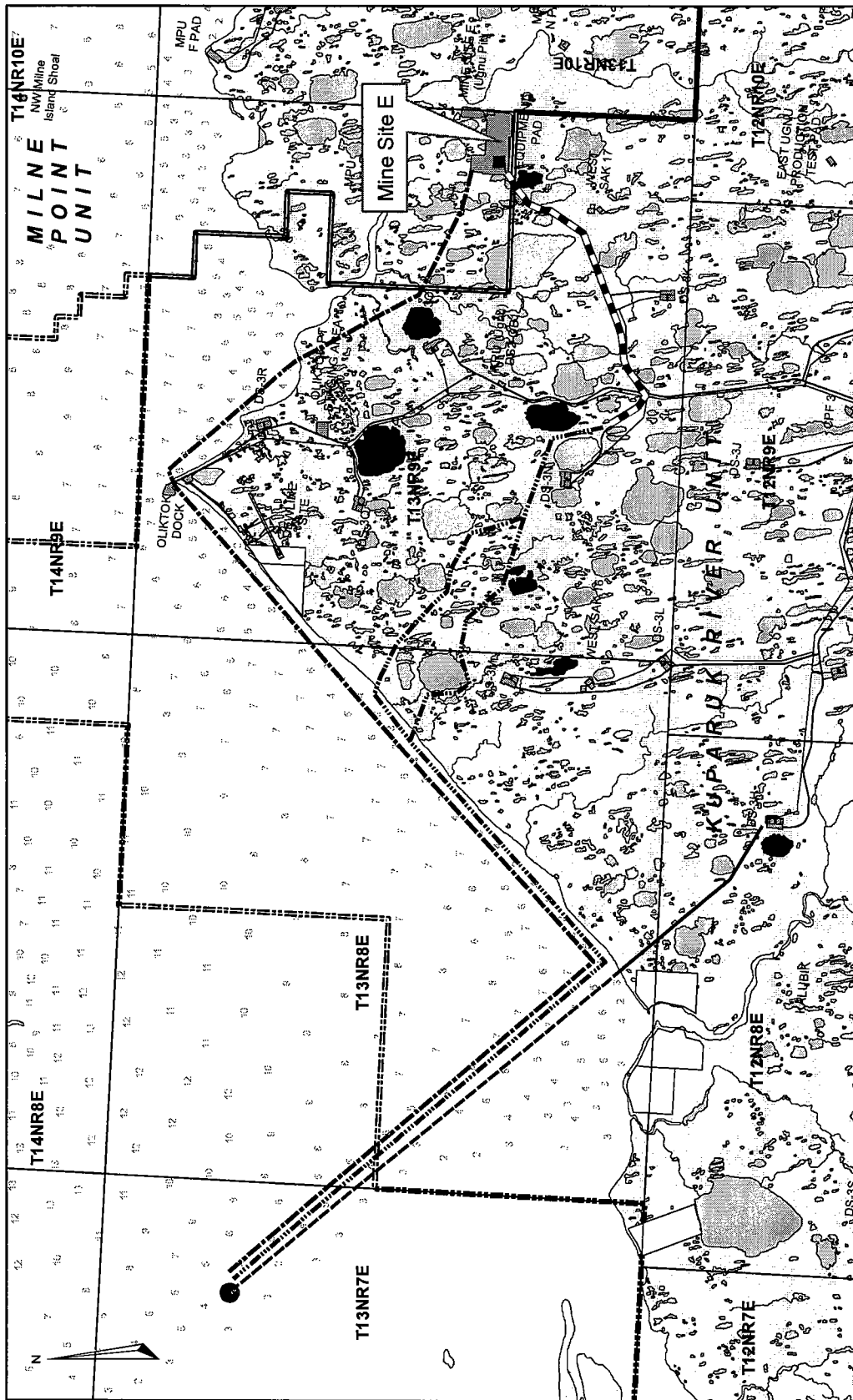
**PROPOSED ONSHORE  
PRODUCTION TIE-IN PAD**  
**Proposed Oooguruk  
Development Project**  
**File No. POA-2005-1295**

JULY 2005

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**PIONEER NATURAL  
RESOURCES ALASKA, INC.**




**PROPOSED WATER SOURCES  
AND GRAVEL HAUL ROUTES**








**Proposed Oooguruk  
Development Project**  
**File No. POA-2005-1295**  
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**PIONEER NATURAL  
RESOURCES ALASKA, INC.**

 Kuparuk River and Milne Point Oil & Gas Units

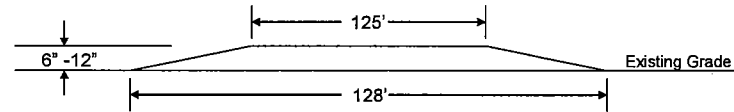
 Native Allotment

-  Proposed Offshore Drillsite Location
-  Proposed Flowline Route - Onshore
-  Proposed Flowline Route - Buried Subsea
-  Proposed Water Sources
-  Route 1- Existing Gravel Road
-  Route 1- Proposed Ice Road Routes
-  Route 2- Proposed Ice Road Route

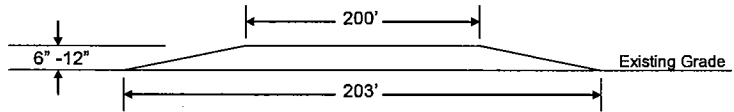
0 1 2 Miles

NAD27, UTM Zone 6, UTM Meridian.  
Bathymetry in feet (MLLW)

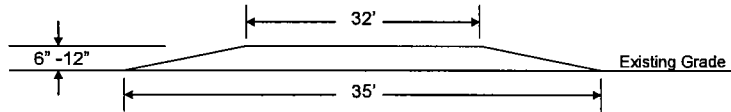




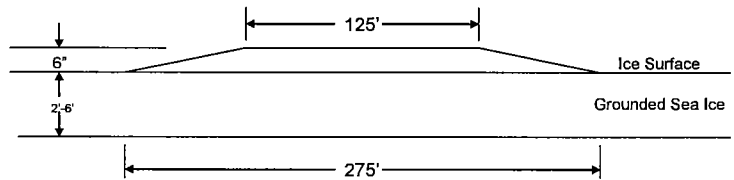
Typical Onshore Ice Road  
Gravel Hauling



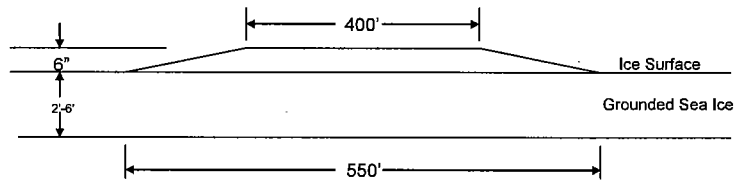
Typical Onshore Ice Road  
Flowline Installation



Typical Onshore Ice Road  
Drilling Rig Support

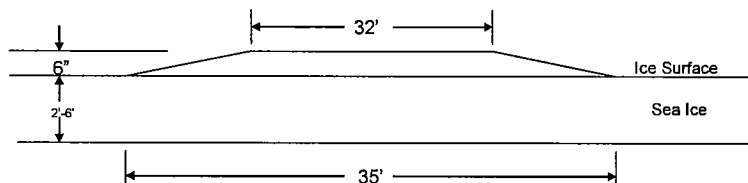


Typical Offshore Ice Road  
Gravel Hauling



Typical Offshore Ice Road  
Flowline Installation

NOT TO SCALE



Typical Offshore Ice Road  
Drilling Rig Support

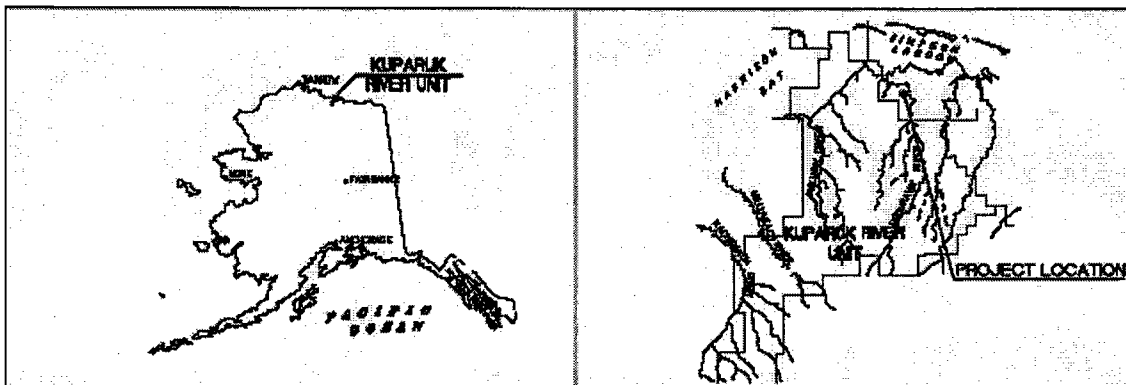
**PROPOSED ICE ROAD  
CROSS SECTIONS  
Proposed Oooguruk  
Development Project  
File No. POA-2005-1295**

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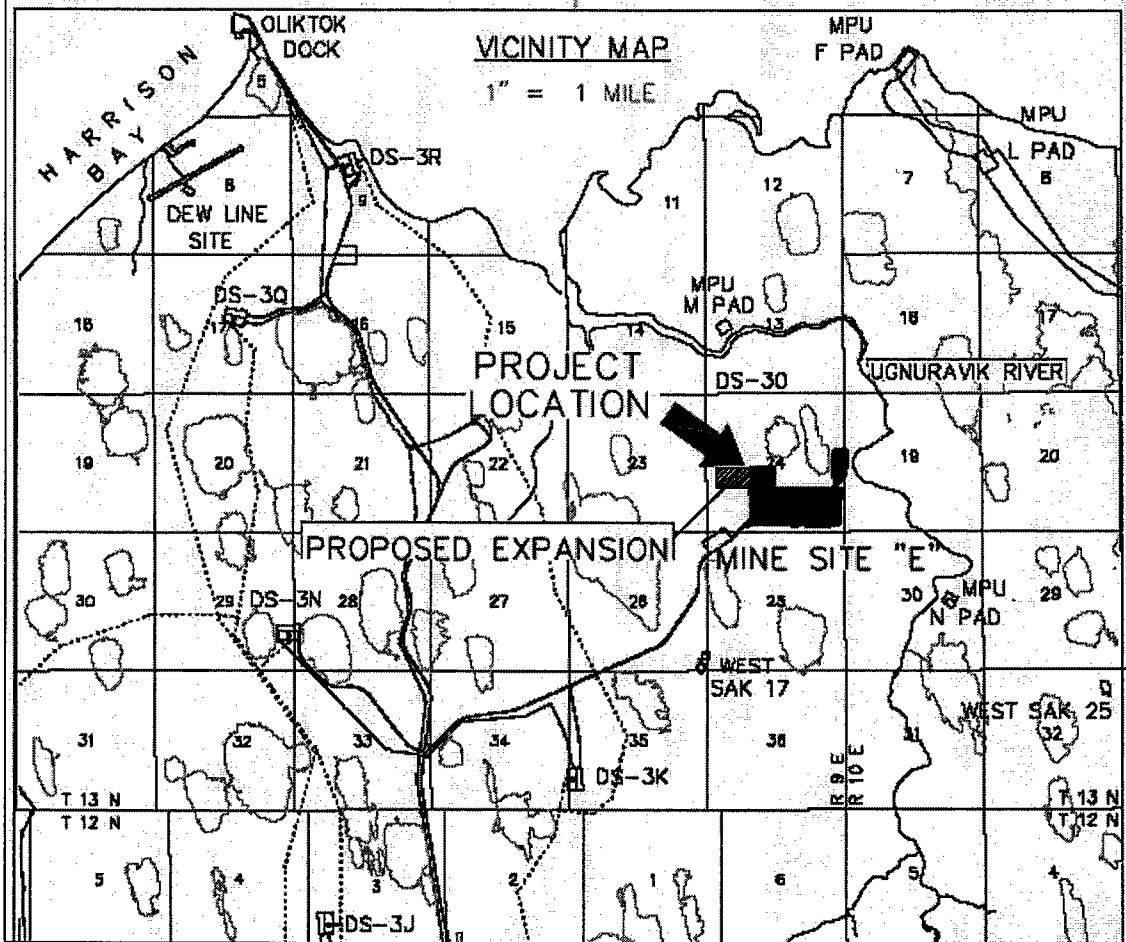


**PIONEER NATURAL  
RESOURCES ALASKA, INC.**



ALASKA VICINITY MAP

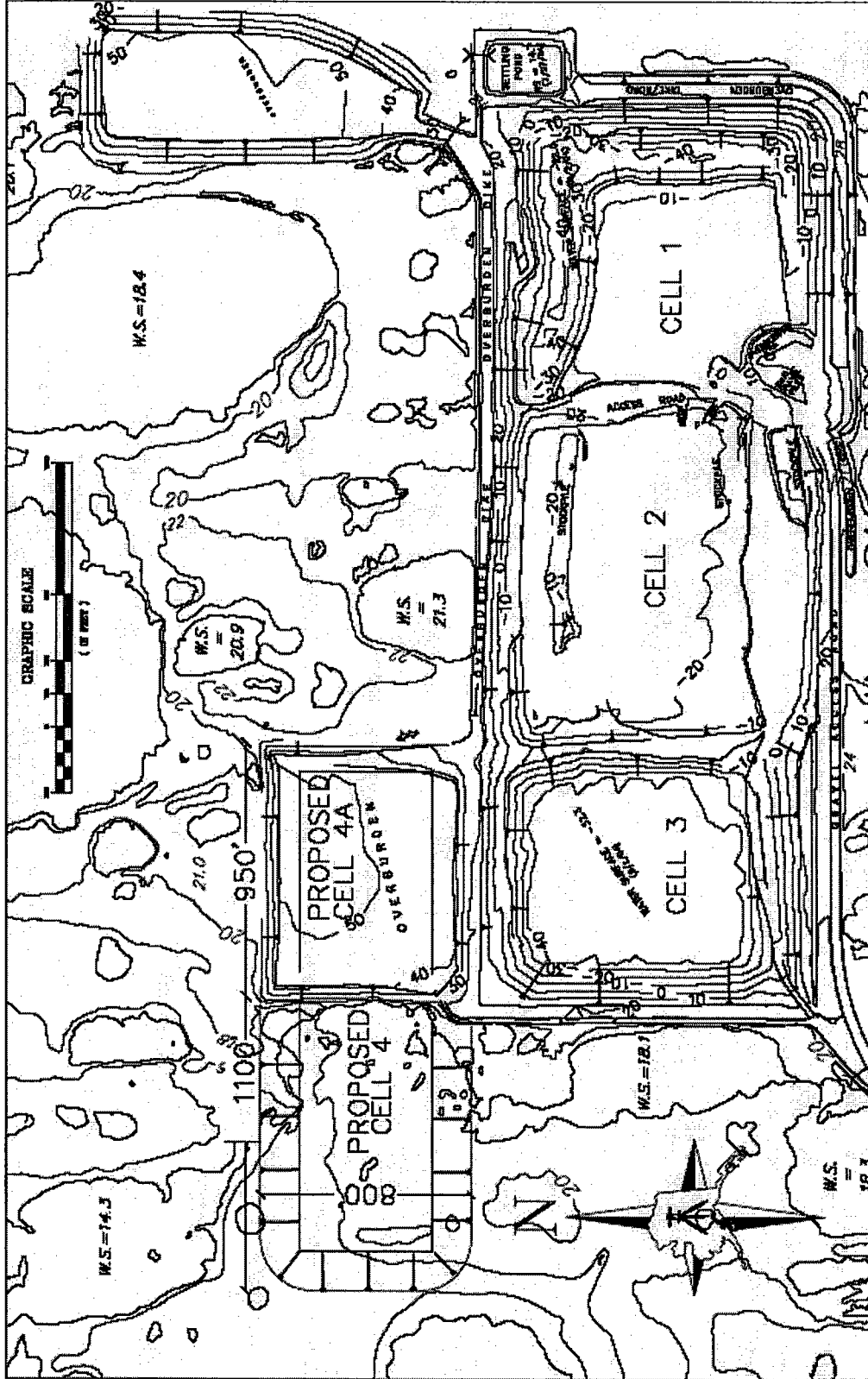
KUPARUK VICINITY MAP



**MINE SITE E EXPANSION PLAN**  
**E-PIT VICINITY MAP**  
**Proposed Oooguruk**  
**Development Project**  
**File No. POA-2005-1295**  
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**PIONEER NATURAL**  
**RESOURCES ALASKA, INC.**



# **MINE SITE E EXPANSION PLAN**

## **EXISTING CONDITIONS**

Proposed Oooguruk

Development Project

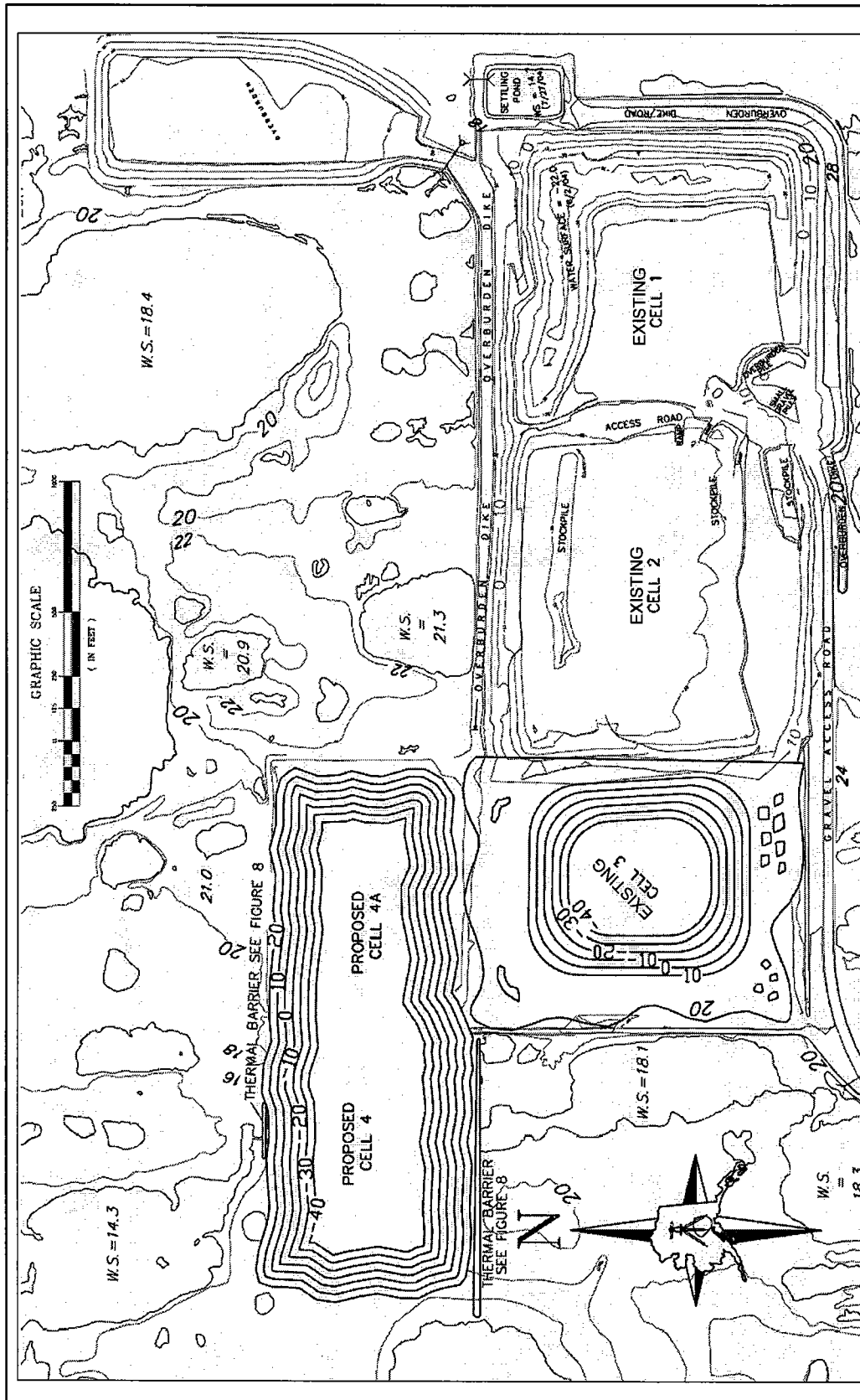
File No. POA-2005-1295

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PIONEER NATURAL  
RESOURCES ALASKA, INC.

Source: Lounsbury & Associates, Inc.



# **MINE SITE E EXPANSION PLAN**

## **PROPOSED MINING PLAN**

Proposed Oooguruk

Development Project

File No. POA-2005-1295

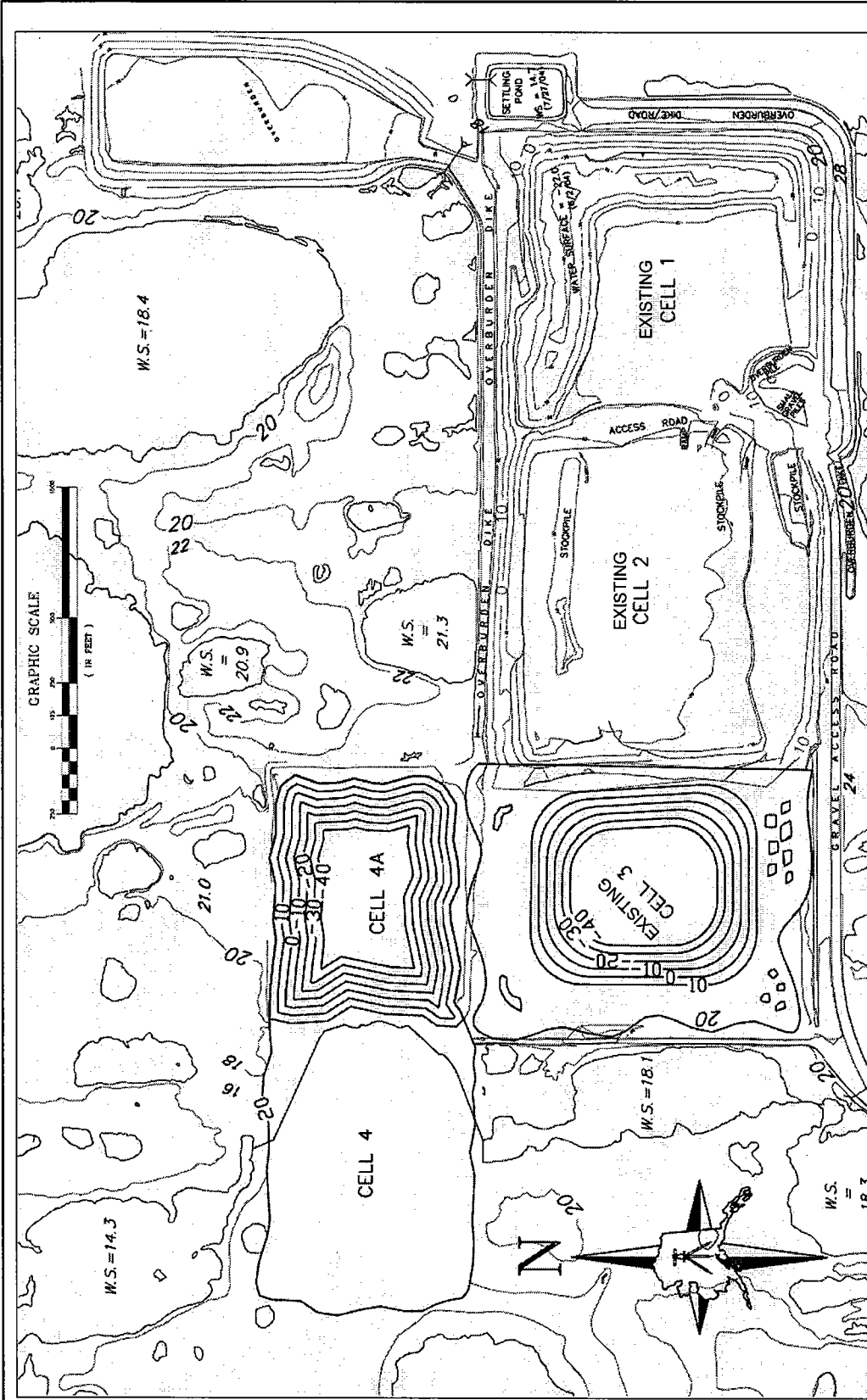
JULY 2005

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PIONEER NATURAL  
RESOURCES ALASKA, INC.

Source: Lounsbury & Associates, Inc.

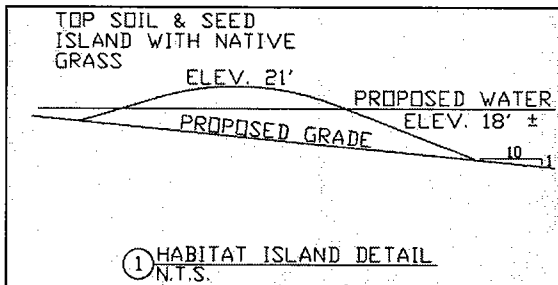
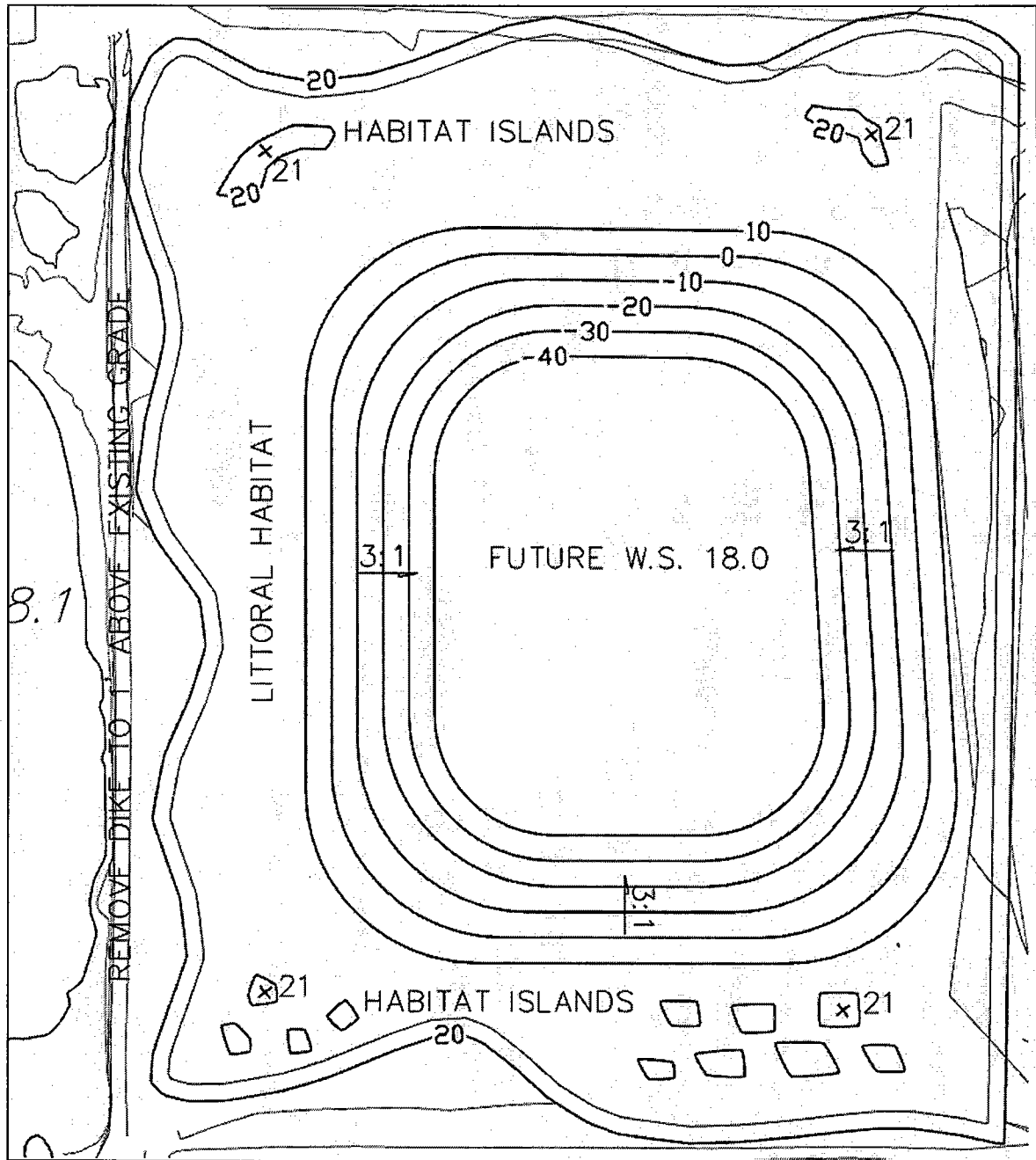


**MINE SITE E EXPANSION PLAN**  
**PROPOSED GRADING PLAN**  
 Proposed Oooguruk  
 Development Project  
 File No. POA-2005-1295  
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**PIONEER NATURAL  
 RESOURCES ALASKA, INC.**

Source: Lounsbury & Associates, Inc.



Source: Lounsbury  
& Associates, Inc.

**MINE SITE E EXPANSION PLAN  
PROPOSED GRADING PLAN-CELL 3**

**Proposed Oooguruk  
Development Project**

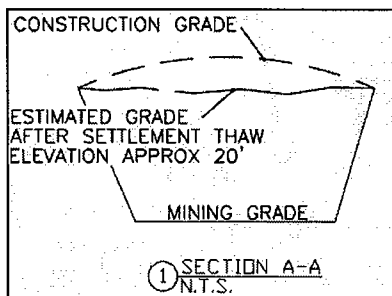
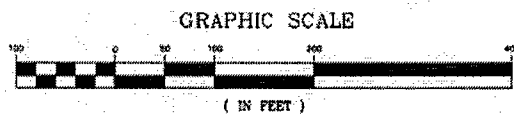
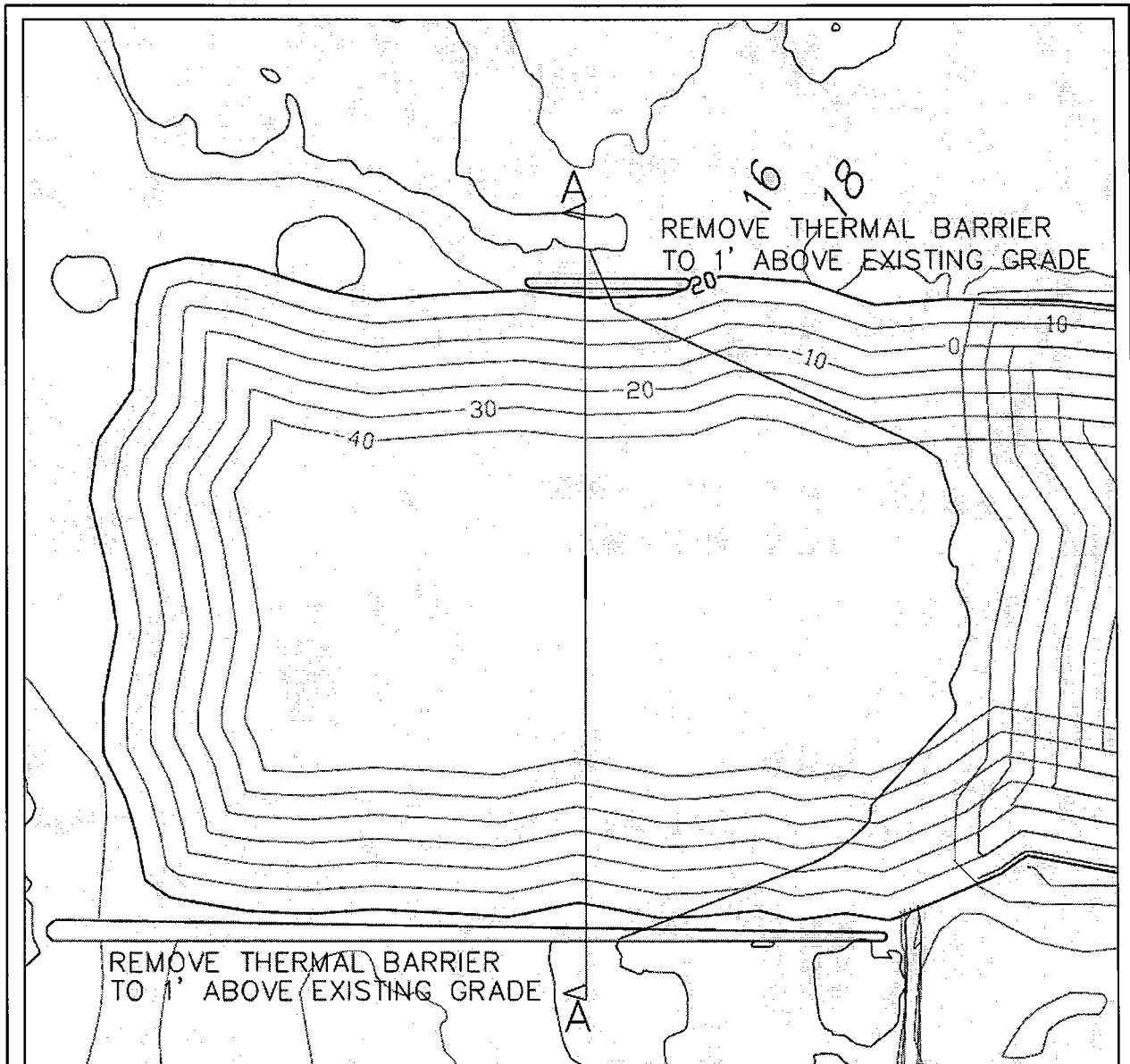
**File No. POA-2005-1295**

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**PIONEER NATURAL  
RESOURCES ALASKA, INC.**



Source: Lounsbury  
& Associates, Inc.

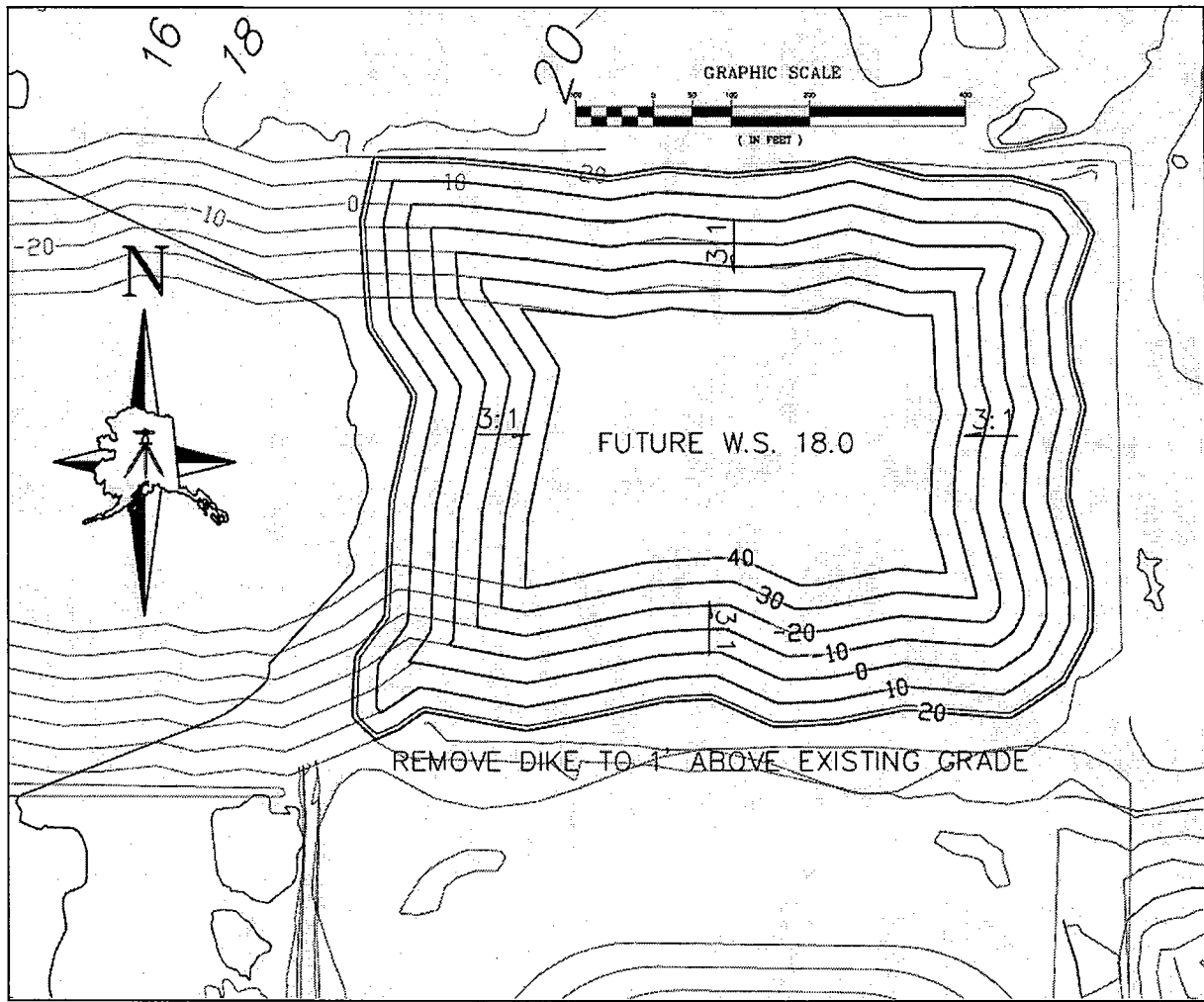
**MINE SITE E EXPANSION PLAN**  
**PROPOSED GRADING PLAN-CELL 4**  
**Proposed Oooguruk**  
**Development Project**  
**File No. POA-2005-1295**

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**PIONEER NATURAL**  
**RESOURCES ALASKA, INC.**



**MINE SITE E EXPANSION PLAN  
PROPOSED GRADING PLAN-CELL 4A  
Proposed Oooguruk  
Development Project  
File No. POA-2005-1295**

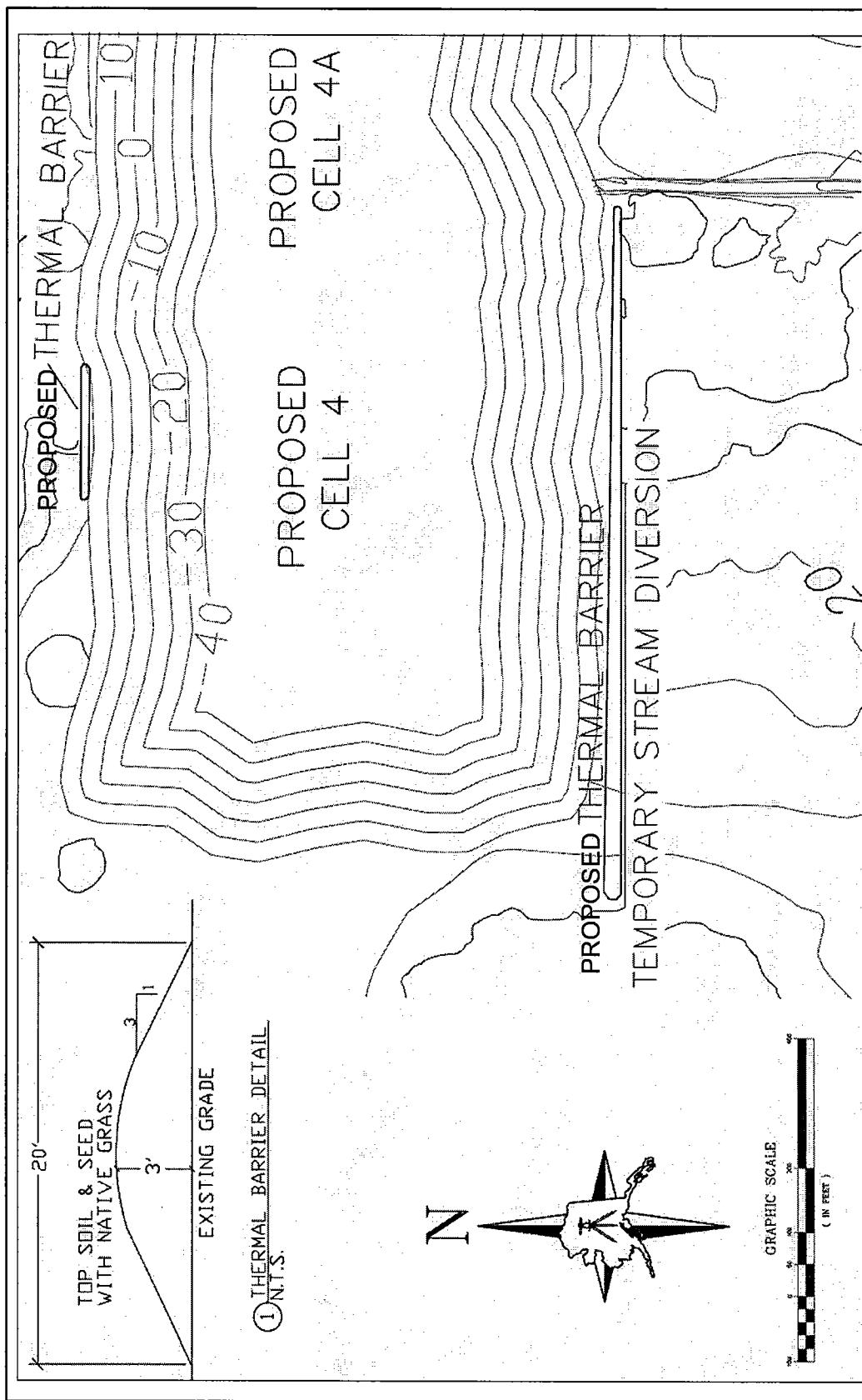
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**PIONEER NATURAL  
RESOURCES ALASKA, INC.**





Source: Lounsbury & Associates, Inc.

**MINE SITE E EXPANSION PLAN**  
**PROPOSED THERMAL BARRIER**

**Proposed Oooguruk**

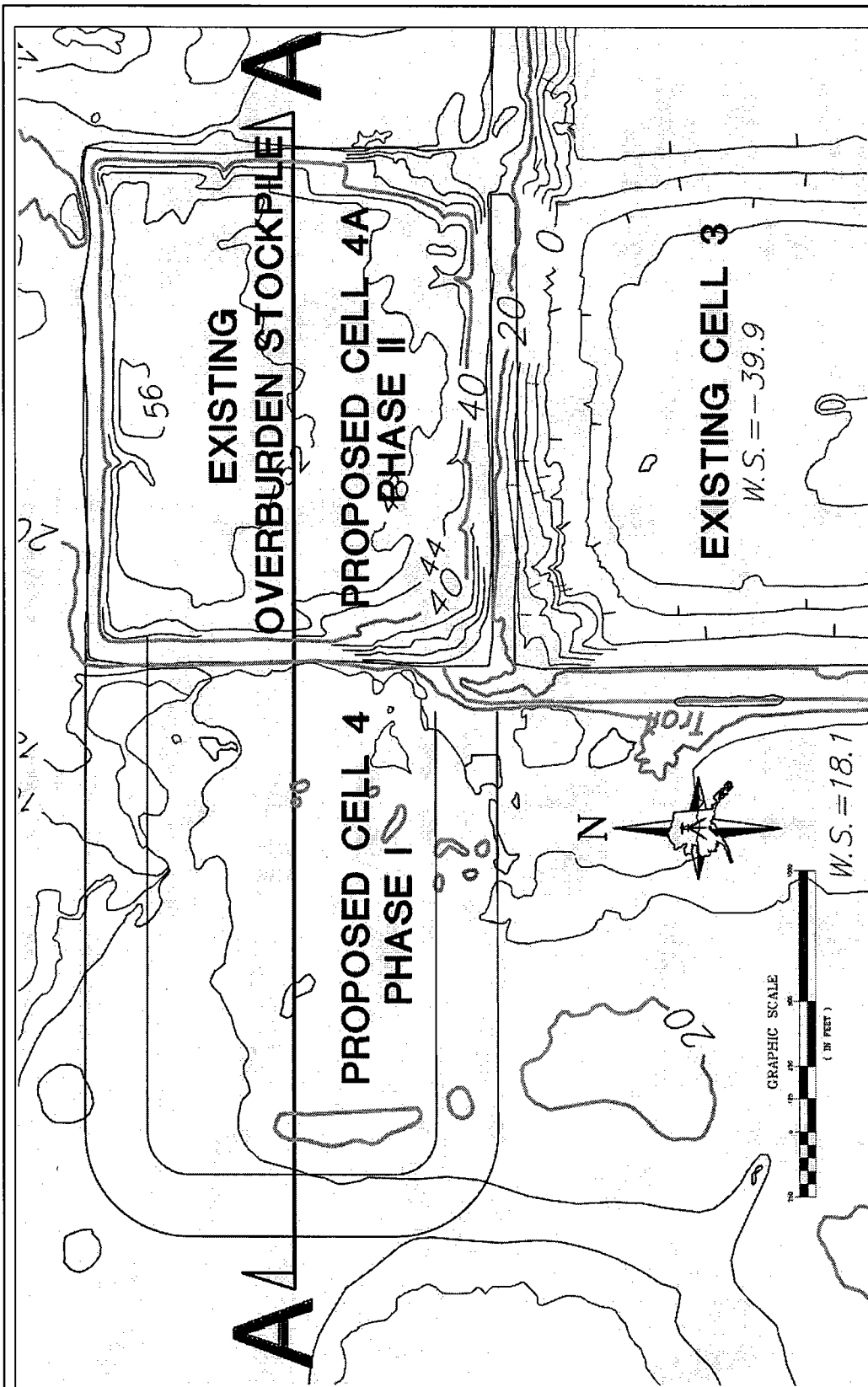
**Development Project**

**File No. POA-2005-1295**


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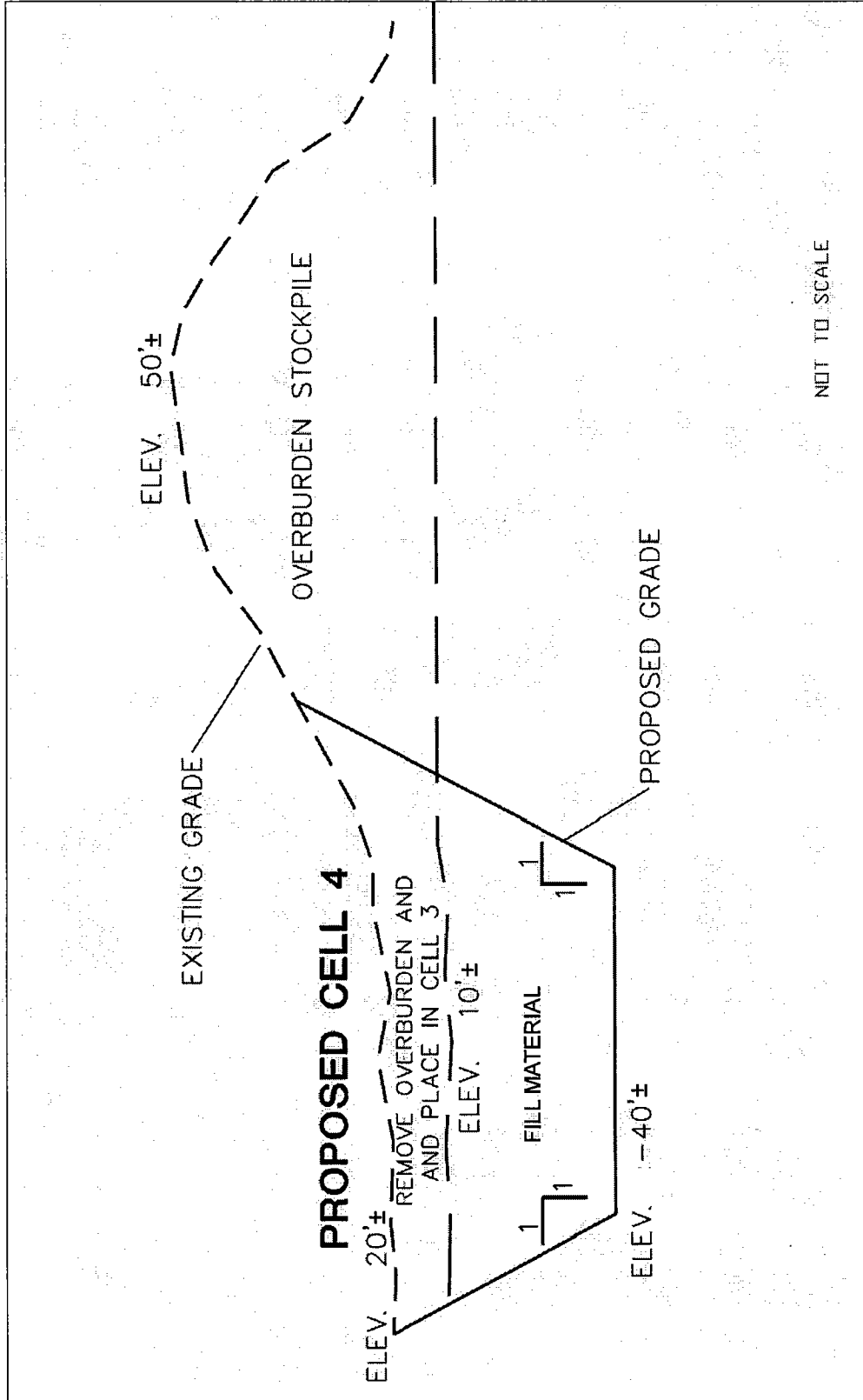


**PIONEER NATURAL**  
**RESOURCES ALASKA, INC.**



Source: Lounsbury & Associates, Inc.

<b>MINE SITE E EXPANSION PLAN</b> <b>PHASING PLAN</b> Proposed Oooguruk Development Project File No. POA-2005-1295 JULY 2005		SHEET 32 OF 34
 <b>PIONEER NATURAL RESOURCES ALASKA, INC.</b>		



**MINE SITE E EXPANSION PLAN  
PHASING PLAN - PHASE I**

**Proposed Oooguruk  
Development Project**

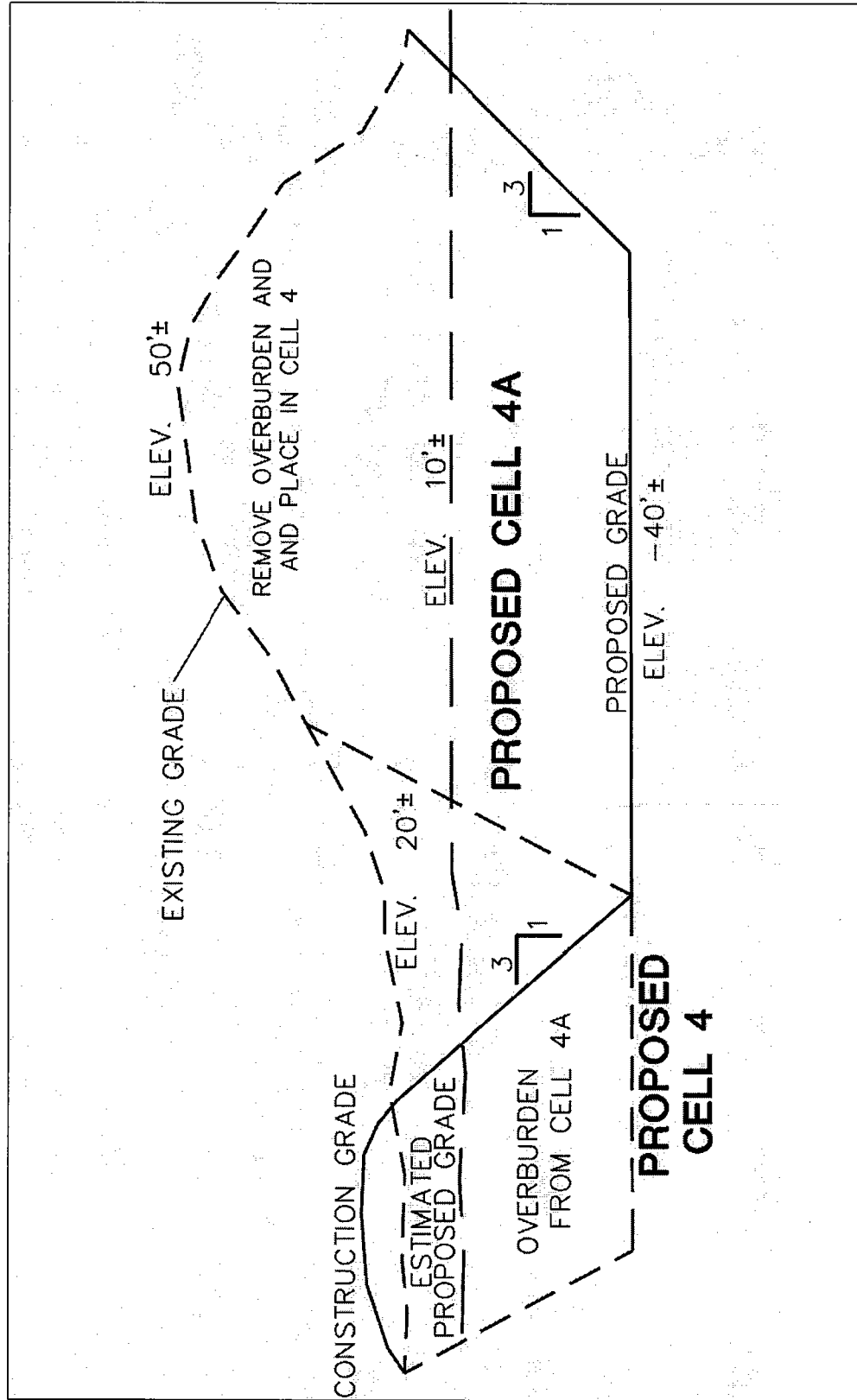
**File No. POA-2005-1295**

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**PIONEER NATURAL  
RESOURCES ALASKA, INC.**

Source: Lounsbery & Associates, Inc.



Source: Lounsbery & Associates, Inc.

**MINE SITE E EXPANSION PLAN**

**PHASING PLAN - PHASE II**

**Proposed Oooguruk**

**Development Project**

**File No. POA-2005-1295**

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**PIONEER NATURAL  
RESOURCES ALASKA, INC.**